

A STUDY OF STUDENT AND FACULTY
REACTIONS TO THE TEACHING OF A
COURSE IN PRINCIPLES OF
CLOTHING CONSTRUCTION

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ABSTRACT

A STUDY OF STUDENT AND FACULTY REACTIONS TO THE TEACHING OF A COURSE IN PRINCIPLES OF CLOTHING CONSTRUCTION

by Marilyn Revell DeLong

The present trend in home economics at the university level is toward teaching principles in all phases of the curriculum. This approach enables students to transfer basic knowledge to new situations. College clothing construction courses which previously involved manual skills are changing to an emphasis on principles. A course which is being changed must be evaluated for its effectiveness and results.

This study was a part of an evaluation of an experimental approach to the teaching of Principles of Clothing Construction. The objectives were: (1) to determine the reactions of college home economics students to the newly developed course, Principles of Clothing Construction (T.C.R.A. 152) and to the various parts of the course, (2) to explore selective factors of grade point average and sewing experience which may be related to students' reactions toward the course, (3) to determine the reactions of college instructors teaching the course, Principles of Clothing Construction.

An analysis was made of the reactions of 73 students and five teachers toward the new course. The instruments developed to obtain the data were called "reactionnaires." A content analysis was made of the teacher and student reactionnaires, and

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the product moment formula was used to determine correlations between student attitudes and grade point average, grade for the course, and sewing experience scores of the students.

From an analysis of the reactionnaires, the following conclusions were drawn: (1) Both teachers and students expressed a favorable reaction to the course, although several changes were recommended; (2) A majority of the students felt they understood the four principles and the construction processes presented during the course; (3) A majority of the students believed that the course would benefit them in their future clothing construction; (4) Previous sewing experience was advantageous in the course; students with high previous sewing experience scores tended to understand the principles and construction processes better than did those students with no previous sewing experience, and also tended to receive the higher grades.

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Marilyn Revell DeLong

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CHAPTER I

INTRODUCTION

Each generation makes its contribution in shaping educational processes. In this generation, principles are recognized as an important part of the educational process. In any act of learning, the first goal is that the learning will serve us in the future; this can be accomplished in two ways. One way is through specific transfer of skills learned in one situation to other very similar situations. A second way is through nonspecific transfer of attitudes and principles which can be used as a basis for solving other problems of the same general nature--the more fundamental the knowledge, the greater the possibility of application to new situations.¹

A course of study is no longer justified at the college level if its emphasis is on the learning of specific manual skills. College clothing construction courses are being carefully scrutinized; and as a result, the approach to teaching them is changing from an emphasis on skills to an emphasis on principles.

When the emphasis of a course is changed, the new approach must be analyzed and carefully evaluated for its effectiveness and results. To evaluate a course, the attitudes of the personnel involved in the change need to be considered. In assessing reactions of a group of

¹Jerome S. Bruner, The Process of Education (Cambridge: Harvard University Press, 1961), p. 17.

people toward a course, as determined by a testing instrument, knowing the factors which have helped form the reactions expressed is essential.

This study is an analysis of the reactions of a group of students and teachers involved in a new approach to teaching clothing construction. The purposes are: (1) to determine the reactions of college home economics students to the newly developed course, Principles of Clothing Construction (T.C.R.A. 152) and to the various parts of the course, (2) to explore selective factors of grade point average and sewing experience which may be related to students' reactions toward the course, (3) to determine the reactions of college instructors teaching the course, Principles of Clothing Construction.

In 1957 the faculty of the College of Home Economics at Michigan State University undertook a major revision of their curriculum, which brought about a three year curriculum study. This faculty decided that the body of common learnings which should be a part of the curriculum for all home economists should: (1) have flexibility, (2) focus on the family in a changing society, (3) emphasize basic principles and applications of basic principles from other disciplines, (4) minimize skills as such (except as they serve to illuminate principles from other disciplines) and require less laboratory time, (5) have a liberalizing rather than a specializing approach, (6) should have appeal for students.¹

The Dean of the College of Home Economics listed the following

¹Rosalind Mentzer, A Report of the Process Used in Revising Curriculum in the College of Home Economics, (East Lansing, Michigan: Michigan State University), p. 9.

questions to be used in evaluating the common learnings: (1) Do they implement a philosophy in which we believe? (2) Do they provide an opportunity to present basic principles? (3) What kind of educational experiences will these learnings offer to students? (4) What do they provide in the way of incentive for independent learning or study by the student? (5) Would they be vital and interesting to college students? (6) How do they relate to University requirements--do they draw on University College courses?¹

At the conclusion of the curriculum study in 1960, Mentzer wrote the following:

The changes. . . are for the most part quantitative. However, we believe that qualitative changes have also occurred. Courses being taught for the first time are being carefully evaluated. Professional courses are being studied critically. There appears to be a recognition among faculty members that the new program provides only a framework and that curriculum development is a continuous process.²

College teachers of clothing and textiles have long struggled with the problem of the place of clothing construction in the college program. Jane Werden, former head of the division of textiles and clothing in the Department of Home Economics at the University of Illinois, expressed this problem in the following manner:

With the current emphasis on science and mathematics at both the high school and college level, the value of teaching home economics is being seriously questioned. The teaching of clothing construction at the college level is one aspect of home economics that is being criticized both from without and within the field. The criticisms concern themselves with the contention that

¹Ibid., p. 7.

²Ibid., p. 16.

courses in clothing construction are skill courses; they belong in a trade school.¹

One solution to the problem might be a change in the course of study, a revision involving a change of emphasis. Skills are involved in any course in clothing construction, but the emphasis does not need to be on skill alone. Basic principles exist in clothing construction, and the information can and should be taught from this standpoint.²

The problem does not end here. The basic course of study needed to be revised; but the question was, how could this be done most effectively. From the Sixteenth Annual Conference of College Clothing and Textiles Teachers in 1960, part of the summary of discussions included the following: College clothing teachers are not clear in their ideas of how clothing should be taught to emphasize reasoning and basic principles and therefore, are weak in ideas transmitted to students.³

As a result of the three year curriculum study in the College of Home Economics, the curriculum changes which have affected all phases of home economics, and a review of national trends in professional education, the staff in clothing construction was stimulated to try a different approach to beginning clothing construction. With a change in emphasis from manual skills to principles, a new approach to the teaching of beginning clothing construction was initiated on an

¹Jane Werden, "The Place of Clothing Construction in the College Program," Journal of Home Economics, LII (May, 1960), p. 340.

²Ibid.

³Sixteenth Annual Conference of College Clothing and Textiles Teachers, Central Region, "Proceedings of the Sixteenth Conference of College Teachers of Textiles and Clothing" (Chicago, 1960), p. 40.

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²Ibid.

³Sixteenth Annual Conference of College Clothing and Textiles Teachers, Central Region, "Proceedings of the Sixteenth Conference of College Teachers of Textiles and Clothing" (Chicago, 1960), p. 40.

experimental basis in the Department of Textiles, Clothing, and Related Arts, College of Home Economics at Michigan State University, Winter Term, 1962.

The three objectives developed for beginning clothing construction reflected the basic philosophy of the staff and their approach to clothing construction at the university level. The objectives were:

1. Students should gain an understanding of basic principles fundamental to all aspects of clothing construction and an ability to apply them.
2. Students should develop an understanding of processes and techniques of clothing construction and learn to evaluate them for specific end uses.
3. Students should develop an ability to recognize and/or appreciate standards of clothing construction.

The following principles and their associated corollaries were developed by the faculty for use in the new clothing construction course:

1. Shaping flat fabric to conform to body curves requires reducing the perimeter of garment pieces.

Corollary I: The amount of reduction of the perimeter of garment pieces is relative to the degree of prominence of body curves.

Corollary II: Darts, tucks, gathers, and ease radiate from the most prominent body curves to be covered by a given garment piece.
2. When concentric circles or arcs of different radii are used in clothing construction, certain adjustments in the circumferences are necessary.
3. Manipulation of any given material is dependent upon its component parts.

Corollary I: Structure is a determinant of the extensibility of fabric.

Corollary II: Texture is a determinant of the behavior of the fabric.

4. Choice of construction methods and techniques and choice of fabric are interrelated.

The present study was undertaken in an attempt to discover the reactions of the students and teachers involved in the newly developed clothing construction course based on these principles. A course which is being changed needs to be carefully evaluated from several aspects, the function of the evaluation being to assist in the improvement of teaching and learning.¹

It is generally agreed that the reactions and attitudes of the learner as well as those of the teacher toward a course are of primary importance in the evaluation of a specific course. Reactions of the persons involved may be obtained partially through informal discussions with students and teachers. Reactions may also be obtained through an instrument which can be used for systematic recording of teacher and student reactions. Instruments called reactionnaires were used to record student and teacher reactions to the course. One reactionnaire was given to the teachers at the end of the first term the course was taught. Reactionnaires were given to the students twice during the course, the first brief reactionnaire at mid-term immediately after the introduction and discussion of the first four principles, the second more detailed reactionnaire at the end of the term.

It is hoped that the results of the analysis of these reactionnaires will contribute to the total evaluation of the newly developed course, Principles of Clothing Construction.

¹Joseph Justman and Walter H. Mais, College Teaching: Its Practice and Potential (New York: Harper & Brothers, 1956), p. 222.

CHAPTER II

REVIEW OF LITERATURE

Importance of Student Attitude

The scope of evaluation has broadened because of a renewed confidence in the validity of subjective insight and judgment.¹ Evaluation has extended to courses of study, but many times student evaluation is not used in analyzing a course. "Most courses today are conducted with no more reliable evidence of the suitability of their content and form than is afforded by plausible assumption."²

The relationship of a student to a course is an important part of the efficiency of the educational process. The caliber of work a student does may depend upon his attitudes toward a subject.³ If a student has developed positive attitudes, his energies can be readily directed to the objectives of a course. Adverse attitudes can result in discord, or apathy, or other behavior which interferes with the attainment of desirable educational objectives.

A beginning course in any area of study is of great importance. It may introduce a student to a new area of knowledge, or the course may bring earlier learning into a basic pattern. Henkel and Seronsy

¹Justman and Mais, p. 220.

²Ibid., p. 219.

³Denis Baron and Harold W. Bernard, Evaluation Techniques for Classroom Teachers (New York: McGraw-Hill Book Company, Inc., 1958), p. 163.

report that the success of a beginning course lies not only in the academic achievement of the students but also in the interests and attitudes that are created toward the new field.¹

The judgment of students can be enlisted in evaluating their learning. These judgments, used as a supplement to other evaluative data, may assist in diagnosing strengths and weaknesses of learning and, thereby, increase the efficiency of the educational processes.²

Roudebush conducted a study using student judgment to find the strengths and weaknesses in the college curriculum for home economics majors at New York State College for teachers. A questionnaire was given to undergraduate, dropout, and graduate home economics majors. In the recommendations, Roudebush included the following:

Opportunities should be provided by the college staff to secure student judgment, and student judgment should be sought specifically when curriculum changes are being considered. The recommendations of young people should be utilized as one source of help in developing a functional program for home economics majors. Constructive suggestions and specific questions raised by students are valuable resources in planning and evaluating the program.³

Measuring Attitudes

Attitude has been defined as "an emotionalized tendency to act

¹Jean Henkel and Louise B. Seronsy, "First Course in Clothing and Textiles," Journal of Home Economics, XLIII (March, 1951), p. 195.

²Justman and Mais, p. 240.

³Alma Roudebush, "A Study of the Utilization of Student Judgment In Curriculum Revision In the Home Economics Division at the New York State College for Teachers At Buffalo," (Unpublished Ph.D. dissertation, Ohio State University, 1951), p. 421.

for or against something."¹ The existence of attitudes can only be inferred from what a person says or does. Such inferences are subject to error. Individuals may wish to conceal real attitudes or may not be aware of existing attitudes; they may give an answer which they believe to be representative of an accepted point of view rather than expressing their own views. The personal stake of an individual in a course and lack of perception of goals may influence his expressed attitudes.

Despite the limitations of measuring attitudes, they may be valuable if analyzed cautiously and critically.² Steps can be taken to make the measure of attitudes as valid as possible. The instrument developed should be made as clear as possible, each question worded so that it is free from ambiguity. Directions should be phrased carefully to make the purpose of the evaluation known. Emphasis must be placed on the fact that the evaluation will not be used in grading.

Related Studies in Evaluation of Student Attitude

Henkel and Seronsy undertook an experimental study of an introductory course in clothing and textiles at Purdue University.³ The course was organized on the basis of a preceding study on needs and interests of the entering freshman student. Students were divided into two groups, beginners and advanced students. This study revealed that previous training, as measured by a checklist, bore no relation to

¹Paul L. Dressel (ed.), Evaluation in the Basic College (New York: Harper & Brothers, Publishers, 1958), p. 215.

²Baron and Bernard, p. 176.

³Henkel and Seronsy, p. 195.

achievement, as measured by course grades. This may have been attributed to unfavorable attitudes resulting from repetitious presentations.

To explore student attitudes in the Henkel and Seronsy study, two instruments were used. The first one given to the students was "A Scale for Measuring Attitude Toward Any School Subject," by E. B. Silance and H. H. Remmers. The results of this test were compared with scores from the same test given to students the previous year before the course was reorganized. The great difference in the two scores, showing a change from an indifferent attitude marked by high variability to an extremely favorable attitude with small variability, seemed to be attributed to the reorganization of the course.

The second instrument was an opinion questionnaire designed to measure specific attitudes toward the course. From this questionnaire a favorable attitude toward the course was found to be partly due to the organization of the course to take care of varied levels of training. In the beginning group 90 per cent of the students, and in the advanced group 80 per cent, favored divisioning of students.

Wright and Henkel conducted a study to determine what effect past experience of students had on achievement in a freshman clothing construction laboratory.¹ The term "achievement" included three phases of learning: knowledge as measured by paper and pencil tests; skill as measured by actual sewing construction; and attitudes as measured by students' opinions.

Students were divided into three groups, beginners, intermediate,

¹Janet S. Wright and Jean Henkel, "Achievement in Clothing Construction," Journal of Home Economics, XLIII (October, 1951), p. 626-628.

and advanced, on the basis of a practical pretest. General attitudes toward clothing construction were obtained from an anonymous questionnaire, which was developed with multiple choice alternatives. In answer to a question concerning new processes learned in the beginning course, 68.1 per cent of the students from all three groupings said the processes learned were all or partly new to them.

Of the total students, 92.1 per cent favored dividing students on the basis of previous construction experience; 7.9 were indifferent; no one was opposed. After dividing, the students' attitudes toward the course were more favorable.

In answer to a question concerning attitudes toward sewing, 63.6 per cent checked their attitude as enthusiastic; 28.5 felt sewing was necessary but were not enthusiastic; and 7.9 per cent strongly disliked sewing.

The amount rather than the type of previous experience in clothing construction was believed to have a definite effect on the attitude of the student and on the achievement of the student. From the questionnaire, 57.4 per cent of the students from all three groups felt their previous experience helped them a great deal; 37.9 said previous experience was of some benefit; and 4.6 per cent reported that previous experience was of no assistance. Evidence showed that students felt previous experience in clothing construction was advantageous.

Students who selected fields of specialization related to clothing upon entering home economics did not show any greater achievement in clothing construction than did those selecting other areas. Students expecting to enter the teaching field showed greater

achievement than those students in the clothing area.

Attitudes toward clothing construction varied depending on the amount of previous sewing experience. Students who had previous sewing experience had better attitudes toward clothing construction at the university level than those students who had no previous experience in clothing construction.

Cooke conducted a study of the student attitudes toward the course, Effective Living.¹ Among the findings from this study were the following: (1) students who ranked their instructors high on an Instructor Rating Scale showed more favorable attitudes toward the course than those who ranked their teachers lower on the scale; (2) students earning A or B grades in Effective Living liked the course better than D or F students; (3) students who had finished the course were more favorable to it than students who were still in the course.

A group of sociologists, Riley, Ryan, and Lifshitz, from Rutgers University studied the relationship between the student and teacher at Brooklyn College.² The halo effect was one condition which they considered. Halo effect is defined as the tendency to be influenced in making a judgment by a general impression created towards the individual or item being judged. A slight tendency toward the halo effect was noted in ratings of superior scholars. Inferior

¹As reported by Dressel, p. 224.

²John W. Riley, Jr., Bryce E. Ryan, and Marcia Lifshitz, The Student Looks at His Teacher (New Jersey: Rutgers University Press, 1950) p. 29.

scholars tended to be more critical in their judgments.

Another aspect of the study was an analysis of student attitudes toward presentation of subject matter, facts versus ideas. A great majority of all students preferred factual presentations in the physical sciences and "stimulating" presentations in the social sciences and the arts. Superior scholars were more favorable to thought stimulation than inferior students in all fields of study. These three sociologists reported that home economics majors generally were more favorable to factual approaches to subject matter than they were to thought provoking approaches.

In rating of teachers on such items as organization of subject matter, attitudes toward students and subject, ability to explain, and tolerance to disagreement, younger instructors were rated superior to older instructors; instructors age 40-49 were rated higher in knowledge of the subject.

CHAPTER III

PROCEDURE

Instruments

Three instruments called "reactionnaires" were developed to obtain the data for this study (see Appendices A, B, C). Two reactionnaires were given to the students, and one was given to the teachers involved in the newly developed course, Principles of Clothing Construction.

The three reactionnaires were designed in a similar manner in order that the results could be compared. A combination of "closed" or "fixed alternative" questions and "open-ended" questions were incorporated into the three reactionnaires.¹ Closed questions were used whenever possible, and open-ended questions were employed when free responses were thought to be better for attaining the desired information.

Pretesting the instruments was not feasible because only one population met the requirements of the study. The three instruments were, however, presented to a class of graduate students involved in evaluation techniques for analysis. After revision, the instruments were examined by faculty members in the Department of Textiles, Clothing, and Related Arts.

¹For a description of closed and open-ended questions see Claire Selltiz et al., Research Methods in Social Relations, (rev. ed., New York: Holt, Rinehart and Winston, 1961), p. 256.

To increase the possibility of an unbiased response from the students, they were requested not to sign their names. Necessary student information including grade point average, major, lecture and laboratory section was requested on the reactionnaire.¹

The content of the course (see Appendix D) was the foundation for the questions on the student reactionnaires. Two reactionnaires were developed, one from the material covered the first half of the term, and the second from new material covered the second half of the term with some duplication of questions from the first reactionnaire for the purpose of comparisons.

The course content of the first half of the term concentrated on basic principles and standards of construction. The lecture dealt with the presentation of Principles 1, 2, and 3 and their application. The laboratory included working with the sewing machine, fitting a paper pattern, and constructing and analyzing a muslin garment. Laboratory work was planned as a direct application of the lecture material.

The second half of the course was built on the material presented in the first half of the term and developed the specific techniques and methods necessary for the completion of a finished garment. Principle 4 served as an introduction to the construction of a garment. Lecture material dealt with various specific problems of construction. The laboratory was devoted to selected practice problems and to limited work on the dress which was finished as an

¹Student information was available from Elizabeth H. Stewartson's thesis, "An Experimental Approach to the Teaching of Beginning Clothing Construction" (Master's Thesis, Michigan State University, in progress).

out-of-class project.

The teacher reactionnaire was designed to gain insights concerning the method of teaching as well as to assess attitudes toward the course. Because the investigator thought that a comparison of teacher reaction with student reaction might be of some value, some questions included in the teacher reactionnaire were worded similarly to those included in the two student reactionnaires.

Administration of Instruments

The first student reactionnaire was given after the mid-term test during a lecture period. This reactionnaire was administered by the regular lecturers to the 70 students present that day. Each reactionnaire was given a code number so that correlations could be made between a student's reaction and the available background information of the student.

Because lecture time was limited and laboratory time was available, the second student reactionnaire was given before the final test during a laboratory by laboratory instructors to a total of 73 students. Sixty-nine of the students who completed this second reactionnaire had filled out the first reactionnaire at mid-term.

The teacher reactionnaire was given to the five lecture and laboratory teachers after the completion of the course. This included five teachers, three involved only with the laboratory and two teaching both lecture and laboratory sections.

Analysis of Data

The student and teacher reactionnaires were analyzed question by question. Data from closed questions were tabulated, and the

content of the open-ended questions was summarized.

The product moment formula (see Appendix E) was used to correlate information about the student with items from the student reactionnaires. The information about the student included sewing experience, grade point average, and grade for the course. Sewing experience was obtained from a total score on a Student Experience Questionnaire (see Appendix F) given to the students at the beginning of the course. The grade point average came from student reactionnaires checked against university student records.

The four items from the student reactionnaires (see Appendix B) correlated with the information about the student were: approach to clothing construction, understanding of principles, understanding of construction processes, and extent this course would help in future clothing construction.

CHAPTER IV

STUDENT REACTIONS

Analysis of Reactionnaires

The analysis of student reaction was based upon two reactionnaires given to the students, one at mid-term and one at the end of the term (see Appendices A and B). Seventy students completed the reactionnaire at mid-term and 73 students at the end of the term. Several questions were duplicated on the two reactionnaires in order that comparisons could be made.

The two reactionnaires were analyzed question by question; the results are given in the following paragraphs.

One comparison question was "How do you like this approach to clothing construction?" (see Table 1). Both at mid-term and at the end of the term, approximately 41 per cent of the students checked "I like it very much." Students answering "I like it fairly well" numbered approximately 41 per cent at mid-term and 53 per cent at the end of the term. Approximately 13 per cent and five per cent at mid-term and at the end of the term, respectively, checked "I do not like it" in answer to this question. Only one per cent of the students said "I do not know" at mid-term, and no one answered the question in this manner at the end of the term.

Seven per cent of the group who answered "I do not like it" at mid-term moved up to "I like it fairly well" at the end of the term.

TABLE 1

COMPARISON OF THE REACTIONS OF BEGINNING STUDENTS TO THE TEACHING
OF PRINCIPLES OF CLOTHING CONSTRUCTION AT MID-TERM
AND AT THE END OF THE TERM

Student Reaction	Mid-term		End of term	
	No.	%	No.	%
I like it very much	29	41.43	30	41.09
I like it fairly well	29	41.43	39	53.42
I do not like it	9	12.86	4	5.48
I do not know	1	1.43	0	--
TOTAL**	68*	97.15	73	99.99

*Two students did not answer this question.

**Percentage is based on 70 student responses to the
reactionnaire at mid-term and 73 at the end of the term.

All students did not explain why they answered this question as they did. Fifteen students at mid-term explained that they liked the course because it helped them understand the reasons behind sewing methods. Seven reported the course improved their basic skills and knowledge; two liked it because the course was thorough; three acquired many new ideas; five said it was more interesting than other approaches; nine students mentioned that inexperienced sewers were at a disadvantage in the course, while one said the course was good for both experienced and inexperienced sewers.

Of the group answering "I do not like it" one student explained that she had gained no real knowledge she had not known before. Another student explained that information presented by this approach was hard to understand.

At the end of the term, fourteen students explained that learning logical reasons for sewing was helpful. Eleven mentioned that it was unfair to put experienced and inexperienced sewers together because the inexperienced students felt disadvantaged, and the experienced sewers were held back by the inexperienced students. Five students said they gained new experience and new methods; three explained they liked the course better as it progressed; three mentioned that this approach was most logical. Other explanations included: "I like it because it is on the college level," "I just enjoy the class," "The combination lecture and laboratory are meaningful," "The course is excellent for teaching majors."

Of the persons marking "I do not like it" at the end of the term, two explained that it was difficult to understand lectures

without actually experiencing the techniques before discussion; one reported that the only interesting part of the course was the dress project, which was completed outside of class.

In answer to the question "Do you feel any changes should be made in the lecture?" 23 of the 73 students said "yes." The changes and the number of students desiring each change are listed in rank order as follows:

- 11 More coordination between lecture and laboratory
- 5 Too much presented in lectures in the time allowed
- 4 Lecture material repetitious
- 3 Improve facilities (blackboard visible to all etc.)
- 3 More specific applications of principles
- 3 Too much lecture in relationship to the time allowed for laboratory
- 2 Combine lecture and laboratory so demonstrations would be possible
- 1 Change the textbook
- 1 Have all lectures during the first half of the course and all laboratories during the last half

Forty-seven of the 73 students felt changes should be made in the laboratory. Some of the changes which these students felt should be made included the following, placed in rank order with the number of responses listed:

- 27 More time in laboratory to work on outside projects
- 15 Need more laboratory time to cover specific techniques such as finishing, fitting the pattern, and other techniques discussed in lecture

- 11 More time allowed for assigned laboratory projects
- 10 Lower student-teacher ratio
- 5 More organization and clearer instructions
- 2 Improved facilities (better sewing machines etc.)
- 2 Would like to examine more ready-to-wear
- 2 Too much perfection required
- 2 Laboratory too advanced for beginners

Three principles had been introduced to the students by mid-term. These three principles were included in both the mid-term and end-of-the-term reactionnaires. The question was asked "How well do you feel you understand Principles 1, 2, and 3?" (see Table 2).¹ For Principle 1 both at mid-term and at the end of the term, approximately 97 per cent checked one of the two categories "Understood very well" or "Understood most of it." Only one per cent of the students felt they understood very little of Principle 1; no one answered "Do not understand."

The degree of understanding of Principle 2 by students increased slightly from mid-term to the end of the term. Approximately 77 per cent at mid-term and 80 per cent at the end of the term checked either "Understood very well" or "Understood most of it." No students checked "Do not understand" for Principle 2.

Students checking the two categories of Principle 3, "Understood very well" and "Understood most of it" increased from 76 per cent at mid-term to 79 per cent at the end of the term. The three per cent

¹For a listing of the principles discussed in this section, see Chapter I, page 5.

TABLE 2

COMPARISON OF THE DEGREE OF UNDERSTANDING OF PRINCIPLES OF
CLOTHING CONSTRUCTION BY BEGINNING STUDENTS AT
MID-TERM AND AT THE END OF THE TERM

Principles of Clothing Construction	Degree of Understanding of Principles by Students											
	Understood Very Well		Understood Most of It		Understood Some of It		Understood Very Little		Do Not Understand			
	Mid- term	End of Term	Mid- term	End of Term	Mid- term	End of Term	Mid- term	End of Term	Mid- term	End of Term	Mid- term	End of Term
	No. %	No. %	No. %	No. %	No. %	No. %	No. %	No. %	No. %	No. %	No. %	No. %
1	42 59.15	45 62.50	27 38.03	25 34.72	2 2.82	1 1.39	0 -	1 1.39	0 -	0 -	0 -	0 -
2	29 40.84	28 38.89	26 36.62	30 41.67	15 21.13	12 16.67	1 1.41	2 2.78	0 -	0 -	0 -	0 -
3	25 35.21	25 34.72	29 40.84	32 44.44	12 16.90	11 15.28	3 4.22	3 4.17	2 2.82	0 -	0 -	0 -
4*	32 44.44		39 54.17		0 -		1 1.39		0 -		0 -	

* Principle 4 was not included in the mid-term reactionnaire.

who said they did not understand Principle 3 at mid-term moved up to another category by the end of the term.

At least 76 per cent of the students at mid-term and at the end of the term indicated they understood most of Principles 1, 2, and 3 by checking either "Understood very well" or "Understood most of it."

Principle 4 was not included in the mid-term reactionnaire. The extent of understanding of Principle 4 at the end of the term appears in Table 2. At the end of the term, 98.6 per cent of the students checked Principle 4 "Understood very well" or "Understood most of it."

The question "Now that you have completed this course, how do you feel the laboratory has helped you to apply what you have learned?" (see Table 3), was asked in both the mid-term and the end-of-the-term reactionnaire so that a comparison could be made. In comparing the reactions to the laboratory experience of adjusting and working with the sewing machine, students circling "Excellently" or "Very well" increased 13 per cent from mid-term to the end of the term. The other three laboratory experiences, fitting a paper pattern, constructing the muslin garment, and analysis of the finished muslin garment remained within five per cent of each other in the extent of understanding from mid-term to the end of the term on the two categories of "Excellently" or "Very well."

The reason for the greater change in understanding of the sewing machine than in the other laboratory experiences might be that students had continuous opportunities to work with the machines as the term progressed.

Students checking "Not well enough" and "Poorly" remained

COMPARISON OF THE EXTENT STUDENTS FELT THE LABORATORY HAD HELPED THEM APPLY WHAT THEY HAD LEARNED AT MID-TERM AND AT THE END OF THE TERM

25

* Some students did not answer all of the questions.

within two per cent of each other from mid-term to the end of the term in all but one laboratory experience. Students who felt they were not able to fit a paper pattern decreased from 11 per cent at mid-term to 5.6 per cent at the end of the term.

In answer to the question "How well do you feel you understand the following specific construction processes?" (see Table 4), the processes checked most in either "Excellentlly" or "Very well" categories were: seams and seam finishes, 89 per cent; pressing, 79 per cent; handling of curves and hems, both 78 per cent; and temporary construction, 75 per cent. Less than two per cent of the students felt they did not understand these five construction processes.

The least understood construction processes were: corded buttonholes with 51 per cent checking either "Excellentlly" or "Very well," but 25 per cent or 18 of the students checking "Not well enough" or "Poorly"; and gussets with 37 per cent understanding at least "Very well" and 26 per cent "Not well enough."

The question was asked "To what extent did your work in lecture and laboratory help you in making your outside project (the dress)?" (see Table 5).¹ Approximately 48 per cent of the students said the lecture was very helpful; 38 per cent said lecture was somewhat helpful; 11 per cent said lecture helped very little; and three per cent said lecture did not help at all in making outside projects.

The following student explanations of the extent the work in lecture helped them in their outside projects are given in rank order

¹For an outline of the work done in lecture and laboratory, see Appendix D.

TABLE 4

THE EXTENT TO WHICH STUDENTS FELT THEY UNDERSTOOD SPECIFIC CONSTRUCTION PROCESSES AT THE END OF THE TERM

Construction Processes	Extent to Which Students Felt They Understood Construction Processes									
	Excellent		Very Well		Fairly Well		Not Well Enough		Poorly	
	No.	%	No.	%	No.	%	No.	%	No.	%
Handling of curves	23	31.51	34	46.57	16	21.92	0	-	0	-
Gussets	10	13.70	17	23.29	26	35.62	16	21.92	3	4.11
Reinforcement of clips	15	20.55	26	35.62	22	30.14	8	10.96	1	1.37
Choice of lining, underlining, interfacing, and facing	12	16.44	30	41.09	25	34.25	5	6.85	0	-
Temporary construction, basted fittings	20	27.40	35	47.94	13	17.81	0	-	0	-
Seams and seam finishes	26	35.62	39	53.42	8	10.96	0	-	0	-
Corded buttonholes	14	19.18	23	31.51	17	23.29	16	21.92	2	2.74
Pressing	29	39.73	29	39.73	13	17.81	1	1.37	0	-
Facings	20	27.40	29	39.73	21	28.77	3	4.11	0	-
Slide fasteners or zippers	24	32.88	27	37.00	16	21.92	4	5.48	1	1.37
Waistline seams	16	21.92	27	37.00	22	30.14	3	4.11	2	2.74
Waistbands	14	19.18	26	35.62	23	31.51	5	6.85	3	4.11
Hems	27	37.00	30	41.09	13	17.81	1	1.37	0	-

for each response:

- 7 Has helped to have thorough explanations
- 2 Has helped to clarify questions
- 1 Were presented with new ideas and techniques
- 1 Have followed lecture notes in making the outside project
- 1 Has helped to learn detailed techniques
- 1 Has helped because I knew reasons behind steps on the guide sheet
- 1 Have relied on lecture because of lack of previous experience

TABLE 5

THE EXTENT TO WHICH WORK IN LECTURE AND LABORATORY HELPED BEGINNING CLOTHING CONSTRUCTION STUDENTS IN MAKING OUTSIDE PROJECTS

Type of Class	Extent to Which Work Helped Beginning Students							
	Very Much		Somewhat		Very Little		Not at All	
	No.	%	No.	%	No.	%	No.	%
Lecture	35	47.94	28	38.36	8	10.96	2	2.74
Laboratory	22	30.14	37	50.68	11	15.07	3	4.11

Approximately 30 per cent indicated the laboratory helped them very much in making their outside project; 51 per cent said laboratory helped somewhat; 15 per cent of the students received very little help; and four per cent did not believe they received any help from laboratory in making outside projects. The students gave the following explanations for their answers, which are listed in rank order:

- 7 Helped to apply techniques and have them checked before doing them on the outside project

- 4 Helped to do zippers
- 2 Helped to practice buttonholes
- 1 Helped because I got used to constructing at a fast pace
- 1 Helped in fitting my pattern
- 1 Helped because laboratory taught new methods
- 1 Helped because instructor was always there when I had a problem
- 1 Helped only somewhat because laboratory was too short to do anything well
- 1 Helped somewhat because there were too many students per teacher
- 1 Helped very little because laboratory projects were not checked before being done on outside projects and if they were wrong on the laboratory project, they were wrong on the outside project
- 1 Would have helped to finish the muslin for practice
- 1 Helped very little because of having previous experience

Students were asked (a) "What part of the course did you feel was most difficult?" and (b) "How do you explain this?" The responses are given in Table 6.

Thirty-one students mentioned specific laboratory procedures as the most difficult part of the course. Some of the specific procedures mentioned most often were bound buttonholes, gussets, paper pattern fittings, and muslin construction and fitting. Other less mentioned laboratory procedures included zippers, tracing with dress-maker's carbon, hand stitches and their application, and facings and linings. The explanation given most often for choosing a laboratory procedure as the most difficult part of the course was lack of previous experience, given eighteen times.

TABLE 6

RESPONSES OF STUDENTS TO THE QUESTION "WHAT PART OF THE COURSE DID YOU FEEL WAS MOST DIFFICULT?" AND "HOW DO YOU EXPLAIN THIS?"

Number of Student Responses	Part of Course Students Felt Was Most Difficult	Number of Student Explanations	Explanation and Reasons Given by Students
31	Specific laboratory procedures		
8	Bound buttonholes	4	Instructions not clear
		3	Lack of previous experience
		1	No comment
8	Paper pattern fittings and alterations	3	Lack of previous experience
		2	Not enough time or guidance
		2	Were not necessary on my garment so did not understand
		1	Paper did not allow handling
6	Gussets	4	Lack of previous experience
		1	Did not understand instruction
		1	No comment
4	Constructing and fitting muslin	4	Lack of previous sewing experience
2	Zippers	1	Lack of previous sewing experience
		1	No comment
1	Tracing with dressmaker carbon	1	Lack of previous sewing experience
1	Hand stitches and where to use	1	Lack of previous sewing experience
1	Facings and linings	1	Lack of previous sewing experience
13	Mid-term examination	3	Not enough time allowed
		3	Difficult to explain on paper

3 No comment
 2 Fell I know more than the score indicated
 1 Asked for unfamiliar applications
 1 Still do not know correct answers

10 Completing laboratory or outside dress projects

7 Not enough time
 1 Term too short
 1 Not enough guidance
 1 No comment

10 Using principles in application to problems

4 Lack of previous experience
 3 Seemed abstract, not enough practical application
 1 Not enough time
 1 Did not understand as well as I thought I did
 1 No comment

31

8 Constructing outside dress project

2 Lack of previous experience
 2 Difficult to apply lecture and laboratory information to problem
 2 Had to unlearn previous experience
 1 Did not experience some techniques in laboratory
 1 So interested, neglected other things

3 None of it was most difficult

3 Had much previous sewing experience

1 Lecture was behind laboratory

1 No comment

1 Exactness required

1 Reflection on lack of patience

1 Altering and adjusting dress project when near completion

1 Had only learned how to alter before cutting

The mid-term examination was felt by 13 students to be the most difficult aspect of the course. Some of the reasons given for this choice included: not enough time allowed, difficult to explain answers to test questions on paper.

Ten students said they had the most difficulty in completing the projects which were assigned to them in laboratory or outside of class. The explanation given by the majority of these students (seven) was that not enough time was allowed.

Ten students indicated that applying the principles to specific problems was most difficult. Four gave "lack of previous experience" as their explanation, and three students said the principles seemed too abstract and that they had not been given enough practical application.

A variety of reasons were given why eight students chose construction of the outside dress project as the most difficult part of the course. Among the reasons given were: lack of previous experience, difficulty in applying lecture and laboratory information to the problem, and no practice in laboratory on some techniques used on the outside project.

Students were asked (a) "What part of the course did you feel was least difficult?" and (b) "How do you explain this?" The results of these questions are listed in Table 7. Twenty students felt a specific laboratory procedure was least difficult. Working with the muslin was mentioned most often, followed by the sewing machine, zippers, pattern fittings, seam finishes, curves, and pressing. The reason most often given was that students had had this sewing experience previously.

Eleven students mentioned clothing construction processes in

TABLE 7

RESPONSES OF STUDENTS TO THE QUESTION "WHAT PART OF THE COURSE DID YOU FEEL
WAS LEAST DIFFICULT?" AND "HOW DO YOU EXPLAIN THIS?"

Number of Student Responses	Part of Course Students Felt Was Least Difficult	Number of Student Explanations	Explanation and Reasons Given by Students
20	Specific laboratory procedures		
6	The muslin	2	Because of previous sewing experience
		1	Was covered in lecture
		1	Needed few alterations
		2	No comment
5	Sewing machine	4	Because of previous sewing experience
		1	No comment
4	Zippers	4	Because of previous sewing experience
2	Pattern Fittings	2	Well explained
1	Seam finishes	1	Because of previous sewing experience
1	Handling curves	1	Because of previous sewing experience
1	Pressing	1	Because of previous sewing experience
11	Clothing construction processes in general	5	Because of previous sewing experience
		2	Was fun, like to sew
		2	Was explained thoroughly
		2	No comment

10	Understanding lectures	4 2 2 2	Well organized and explained Use of illustrative materials Was very specific No comment	
9	Nothing was least difficult	3 6	No previous experience No comment	
4	Constructing outside project	1 1 1 1	Had learned how to apply the principles Like to sew independently Interesting No comment	
3	Understanding principles	1 1 1	Well explained On the college level No comment	
1	Everything was easy	1	Because of previous sewing experience	34

general as being the least difficult part of the course; the reason most often given was previous sewing experience, followed by enjoyment of sewing and thorough explanations.

Understanding the lectures was indicated by 10 students to be the least difficult aspect of the course. Reasons given were that lectures were well-organized, well-explained, well-illustrated, and very specific.

Nine students, because of no previous sewing experience, felt that there was nothing that was not difficult; only one student expressed the feeling that everything was easy.

Constructing the outside project was least difficult for four students because they had learned to apply principles, they liked to sew independently, and it was interesting. Three students felt that principles were least difficult to understand because they were well explained and on the college level.

In both the questions concerning the most and the least difficult aspects of the course, the reason given most often for a part being difficult or easy was previous experience. Previous sewing experience seemed to be an important factor in determining the degree of difficulty or ease of the various parts of the course.

Students were asked "To what extent do you believe this course will help you in future clothing construction?" The results are shown in Table 8. At least 75 per cent of the students checked "Excellent" or "Very well" in each of the following responses: "It will help me apply principles to new clothing construction," "It will help make clothing construction easier," and "It will help me make my clothing look more professional." Less than five per cent of the students said

TABLE 8

**EXTENT TO WHICH STUDENTS FORESEE THE COURSE IN PRINCIPLES OF
CLOTHING CONSTRUCTION WOULD HELP THEM IN THE FUTURE**

Responses*	Extent to Which Students Foresee the Course will be of Value							
	Excellently		Very Well		Fairly Well		Very Little	
	No.	%	No.	%	No.	%	No.	%
It will help me apply principles to new clothing construction.	22	30.14	33	45.20	14	19.18	3	4.11
It will help me to teach others.	13	17.81	28	38.36	20	27.40	10	13.70
It will help me to answer more intelligently the questions people ask.	15	20.55	33	45.20	20	27.40	4	5.48
It will help me to analyze construction problems quickly.	17	23.29	26	35.62	23	31.51	6	8.22
It will help me feel more independent in constructing clothing.	18	24.66	30	41.09	19	26.03	2	2.74
It will help me enjoy clothing construction.	25	34.25	24	32.88	16	21.92	3	4.11
It will help make clothing construction easier.	21	28.77	37	50.68	11	15.07	1	1.37
It will help me make my clothing construction look more professional.	26	35.62	31	42.46	14	19.18	1	1.37
							2	2.74
							0	-

* Some students did not answer all the questions.

the course would help them "Very little" or "Not at all" in the above responses.

Approximately 65 per cent of the students answered "Excellent" or "Very well" to the extent the course would help them answer more intelligently the questions people ask, would help them feel more independent in constructing clothing, and would help them enjoy clothing construction. Fifty-six per cent of the students checked that the course would help them teach others, and 59 per cent said the course would help them analyze construction problems quickly.

In answer to the question "What is your reaction to the general level of difficulty of this course?" (see Table 9), 47 of the 73 students said it was "About right to be challenging"; 11 students said there was "Too much busy work for college level"; nine students said "Failed to grasp many points"; four said the course was "Too much repetition"; and five said they "Could have learned this myself." Other reactions which pertained to this question included the following: three students said the course was difficult for inexperienced sewers, while three other students said it was a good level for inexperienced sewers; one student reported that the principles were difficult to understand, and one student said it was assumed the students knew more than they did.

Students were asked "What do you feel about the difficulty of the course in relation to other courses in the college?" (see Table 10). Thirty-five out of the 73 students indicated the course was "About as difficult as other courses." Thirteen students checked the course as "More difficult than many," and thirteen students said the course was "Less difficult than other courses." Three students

TABLE 9
REACTION OF BEGINNING STUDENTS TO THE LEVEL OF DIFFICULTY OF
PRINCIPLES OF CLOTHING CONSTRUCTION

Responses	Number of Responses
Failed to grasp many points	9
About right to be challenging	47
Too much busy work for college level	11
Too much repetition	4
Could have learned this myself	5
Other reactions	8
TOTAL	84*

*Some students gave more than one response.

TABLE 10
REACTIONS OF BEGINNING STUDENTS IN CLOTHING CONSTRUCTION
TO THE DIFFICULTY OF THE COURSE IN RELATION TO
OTHER COURSES IN THE COLLEGE

Responses	Number of Responses
Most difficult course I have had	3
More difficult than many	13
About as difficult as other courses	35
Less difficult than other courses	13
Least difficult of my courses	4
Other reactions	5
TOTAL	73

reported this course the "Most difficult course they had ever had," and four said it was their "Least difficult course."

Other reactions included: two students said it was as difficult as other clothing courses; one student said the course was hard to compare to other courses because of the practical skill needed for this course; two students felt it was very exacting, but not necessarily difficult.

In answer to the question "What do you feel about the amount of work required in relation to the credits earned?" (see Table 11), 32 out of the 73 students said the course required too much work; 37 indicated the course was about right; no one felt there was not enough work required.

TABLE 11

REACTIONS OF BEGINNING STUDENTS TO AMOUNT OF WORK REQUIRED
IN RELATION TO CREDITS EARNED IN PRINCIPLES OF CLOTHING
CONSTRUCTION

Responses	Number
Too much	32
About right	37
Not enough	0
TOTAL	69

Explanations of student reactions and the number of students giving each explanation shown in Table 11 were as follows:

- 23 Too much of the required work had to be completed outside of class

- 6 Time normally spent in reading in other courses was spent for construction in this course
- 3 Too much work because of no previous experience
- 3 Work about right if budget time from the beginning
- 1 A lot of work but willing to spend the time for a good purpose

When asked "Would you recommend this course to a friend?"

45 of 73 students checked "Yes"; six said "No"; and 20 said "I do not know."

Reasons for checking "Yes" and the number of students who gave each reason included:

- 22 Was very beneficial, gained practical knowledge
- 4 Depends on the sewing experience of the friend
- 2 Taught in a way non-home economics majors can learn sewing
- 2 Puts clothing construction on a scientific level
- 2 Helps in fitting dresses
- 2 Helps in judging ready-to-wear
- 1 Helps in picking up short cuts
- 1 Gives self-confidence
- 1 Renewed my enthusiasm for sewing

The reasons for checking "No" and the number of students giving each reason were:

- 11 Was too much work outside of class
- 1 Might recommend to a beginner
- 1 Did not gain much

Those students who answered "I do not know" gave the following reasons:

- 8 Depends on the sewing experience of the friend

- 2 Lost self-confidence
- 2 Needs some course revision
- 2 Was too exacting
- 2 Was good idea but too much work
- 1 Was too difficult to do outside sewing in the time the Home Economics building was open
- 1 Based too much of the grade on tests
- 1 Was nervous wreck at the end because of so much to do

Results of Correlations

The degree of relationship which exists between two variables is expressed as the coefficient of correlation. If no relationship exists between two items being correlated, the coefficient will be zero. From this point, the coefficient will range between the limits of positive + 1 and negative - 1 depending upon the degree of relationship, with a coefficient of ± 1 denoting perfect positive and negative correlation.

The Pearson's Product Moment Coefficient of Correlation (see Appendix E) was used to determine the statistical relationship which existed between various factors involved in the course, Principles of Clothing Construction. A value of r must be greater than $\pm .23$ for the number of items to be considered statistically significant in this study.¹

Sewing experience scores (see Appendix F), grade for the course,

¹The figure was obtained from R. A. Fisher, Statistical Methods for Research Workers. (Edinburgh: Oliver & Boyd Ltd.).

and grade point average of the students were correlated with scores from the student reactionnaires: (1) approach to clothing construction, (2) understanding of principles, (3) understanding of construction processes, and (4) future course value.

The sewing experience scores gave a significant correlation coefficient of $+.31$ when correlated with understanding of principles; $+.36$ with understanding of construction processes; and $+.26$ with future course value (see Table 12). The coefficient $-.12$ obtained between sewing experience and approach to clothing construction shows no significant correlation.

TABLE 12

COEFFICIENTS OF CORRELATION BETWEEN SEWING EXPERIENCE SCORES, COURSE GRADE, GRADE POINT AVERAGE, AND APPROACH TO CLOTHING CONSTRUCTION, UNDERSTANDING OF PRINCIPLES, UNDERSTANDING OF CONSTRUCTION PROCESSES, AND FUTURE COURSE VALUE

	Approach to Clothing Construction	Understanding of Principles	Understanding of Construction Processes	Future Course Value
Sewing Experience Scores	$-.12$	$+.31^*$	$+.36^*$	$+.26^*$
Course Grade	$+.15$	$+.19$	$+.24^*$	$+.31^*$
Grade Point Average	$-.14$	$+.14$	$-.12$	$-.16$

*Significant correlations

Table 12 also shows the results of correlations between grades for the course and approach to clothing, $+0.15$; understanding of principles, $+0.19$; understanding of construction processes, $+0.24$; and future course value, $+0.31$. The former two coefficients are not statistically significant; while the latter two can be considered significant.

The qualifying remarks which students recorded under their reaction to the understanding of principles may give some insight into the lack of this correlation between grade for the course and understanding of principles. Some qualifying remarks showed that even though some students could not apply principles, they still recorded their understanding as "Excellent." Perhaps other students who were beginning to see the significance of the principles recorded their understanding low because they felt they did not fully understand all aspects of the principles.

The results of the correlation of total grade point average and the four student reaction scores were in each case not statistically significant. A possible explanation for this lack of relationship between these variables is the correlation coefficient obtained between sewing experience and grade for the course which was $+0.33$; in contrast, a value of -0.31 was recorded between grade point average and sewing experience. Hence, students with more previous sewing experience tended to understand the various aspects of the course better than did those students with a lower previous experience score.

The student reaction to the approach to clothing construction was not significant in any of the three correlations with sewing experience scores, grade for the course, or grade point average

(see Table 12). The lack of correlation might be attributed to the fact that the continuum for recording scores on approach to clothing construction only provided a four point spread which did not give as much opportunity for distinctions between students' feelings as a larger spread might have given. Another reason for this lack of correlation may be the large grouping of students into the top categories, approximately 83 per cent of the students checking "I like it very much" and "I like it fairly well" to the question "How do you like this approach to clothing construction?"

CHAPTER V

TEACHER REACTIONS

Five faculty members involved in teaching laboratory and lecture sections answered a reactionnaire (see Appendix C) given to them at the end of the course, Principles of Clothing Construction. Two teachers instructed both a lecture and a laboratory; three taught only the laboratory.

The teacher reactionnaires were analyzed question by question, and the results appear in the following paragraphs.

In answer to the question "How do you like teaching this new approach to clothing construction?" four teachers answered "I like it very much"; one answered "I like it fairly well." The reasons given by the teachers answering "I like it very much" included:

"More students knew what they were doing and the reasons why."

"I like the challenge of a new experimental approach. I think this is a step in the right direction although many details are still most frustrating and confusing."

"Students seem to be learning 'why' rather than simply 'how' to do things. This gives the beginner a chance to acquire knowledge without so much emphasis on skill development. It is also more challenging for most advanced students."

"I feel more organized teaching by this procedure. I am not repeating the same points as many times to students as formerly."

The reason given by the teacher answering "I like it fairly well" was:

"The dresses were done without enough checking and approval by instructors. Periodic check points could eliminate some of the errors which made some of the garments appear 'home-made.'"

A question asked (a) "Do you feel any changes should be made in the lecture?" and (b) "If you checked yes, explain the changes you feel should be made?" Four of the five teachers believed changes should be made. Two teachers said more frequent use of illustrative materials and better materials would be most beneficial. One teacher mentioned that there were not enough illustrative materials which students could see; also, the materials could be mounted on a bulletin board for later reference by students. Two teachers wrote that some of the lecture materials were given too late to be of maximum value to all students on the dress projects. Other suggested changes included: more emphasis on the responsibility of students to keep up to date, lecture demonstrations of all aspects of work, and time for more questions to be answered during lecture.

The question was asked (a) "Do you feel any changes should be made in the laboratory?" and (b) "If you checked yes, explain the changes you feel should be made." All of the five teachers marked "Yes." The changes which should be made and the number of teachers desiring each change were as follows:

- 4 More laboratory time for the dress projects for closer supervision.
- 2 Need demonstration on muslin fitting
- 1 Delete the buttonhole laboratory
- 1 Control the number of students in laboratory
- 1 Eliminate either the dress project or some of the laboratory problems
- 1 Partners did not work very well, partners were hesitant to take the time to help one another because of time pressure

- 1 Need organization on various laboratory projects of samples so that students understand the standards for a good product
- 1 Less lecture or elimination of lecture in laboratory

The answers of the five respondents to the question (a) "What part of the course did you feel was most difficult to teach?" and (b) "How do you explain this?" are summarized in Table 13.

TABLE 13

RESPONSES OF TEACHERS TO THE QUESTION "WHAT PART OF THE COURSE DID YOU FEEL WAS MOST DIFFICULT TO TEACH?" AND "HOW DO YOU EXPLAIN THIS ?"

No.	Part of the Course Most Difficult to Teach	No.	Explanation Give by Teachers
2	Evaluation and fitting of the muslin	2	Not completed in length of scheduled
1	Lecture on specific techniques	1	Material not in orderly steps, difficult to time lecture to coincide with student projects
1	Preparation for lecture	1	Because of preparation which was necessary, preparing visual aids, etc.
1	Alterations	1	Has always been a problem, but was easier as a follow up of a principle
1	Finishing dress	1	Least capable students worked too independently, students had no basis for judging their level of accomplishment

Two teachers indicated that the evaluation and fitting of the muslin was the most difficult part of the course because of the inadequate length of time allowed in the schedule; two said the lecture was the most difficult because of the preparation involved and because

the material to be presented was not in orderly steps. Alterations and the finishing of the dress were also mentioned as being difficult to teach.

The question was asked (a) "What part of the course did you feel was least difficult to teach?" and (b) "How do you explain this?" The results of this question appear in Table 14.

TABLE 14

TOTAL RESPONSES OF TEACHERS TO THE QUESTION "WHAT PART OF THE COURSE DID YOU FEEL WAS LEAST DIFFICULT TO TEACH?" AND "HOW DO YOU EXPLAIN THIS?"

No.	Part of the Course Least Difficult to Teach	No.*	Explanation Given by Teachers
2	Laboratory problems, specifically gussets and curves	2	Directions well written
		1	Reasonable amount of work for 2 hours
		1	All students working on same thing
		1	Situation relaxed and informal
1	Laboratory problems (in general)	1	Because I had enough experience so that I could vary the schedule as I saw problems come up
1	Principle 3 and its applications in lecture	1	More experience in this area

*Several reasons were given by each respondent.

Three teachers said laboratory problems were the least difficult to teach; two mentioned gussets and the handling of curves specifically because of well-written directions, and students were all working on the same problems in laboratory. One teacher felt that Principle 3 was the least difficult to teach because of more experience in this area.

The following question contained three parts. Part (a) asked "To what extent do you feel the work in lecture and laboratory helped students in making their outside projects (the dress)?" Three teachers answered this part "Somewhat"; one answered "Very much"; and one said the extent of help varied with the students between "Very much" and "Somewhat." Part (b) asked "To what extent did you feel the principles which were taught were applied to the students' outside projects?" Four answered "Somewhat" and one answered "Very much." Part (c) asked, "What was your impression of the outside projects?" A summary of the number of teachers giving each answer to Part (c) appears below:

- 5 Ranged from very good to very poor
- 3 Generally, appearance good and fairly well done
- 2 Students showed independence
- 2 More laboratory time or time with instructor would have improved some of the garments
- 1 Some beginning students seemed to apply principles while others could not

The answers to the question "How do you feel this course will affect students in future clothing construction?" are as follows:

- 3 Students will understand what they are doing
- 2 Students will plan more sewing projects because the course stimulated student interests
- 2 Students will work more independently and feel more security than with traditional method of teaching
- 1 Some students who failed to understand the course will be confused and frustrated

1 Some students will still need more experience

A question asked "What is your reaction to the general level of difficulty of this course?" Four teachers checked "About right to be challenging"; one commented that "Students failed to grasp many points" and went on to explain that some students need additional help and explanation over and above the general lecture to all students.

In answer to the question "How do you feel about the difficulty of the course in relation to other courses with which you are familiar?" four teachers checked "More difficult than many," and one said the difficulty depended on the student and her sewing experience.

The teachers were asked "How do you feel about the amount of work required of students in relation to the credits earned?" The items checked and the reasons given were as follows. Three teachers checked "About right" because outside construction replaced reading from other courses and the teacher could direct outside projects after judging skills of students from the samples. Two teachers said students had too much work for the number of credits earned and explained that the dress project could be omitted, making the laboratory projects more extensive and the course credits could be increased to four credits.

In answer to the question "In terms to come when laboratory time is cut shorter, what do you feel could be left out of this course?" three teachers said bound buttonholes; two teachers said omit the dress project; one teacher said require the dress project to be more standardized; and one teacher said omit the lesson on zippers.

Responses to the question "What do you feel about the reading materials for this course?" included the following:

"Mansfield is good for a reference."

"Mansfield is a little too involved for a beginner and is more of a reference book. Students need a book more related to their experiences."

"A committee should prepare a workbook with references in several clothing construction textbooks."

"Students need several reference books available in the laboratory or library and students could purchase current pamphlets as Singer, or U.S.D.A. alterations bulletin."

In answer to the question "Would you enjoy teaching this course again?" all five teachers checked "Yes." The reasons given and the number of teachers making each comment were:

- 2 Was challenging and interesting to teach
- 2 Can improve presentation by repeating the course
- 2 Yes, with a few changes
- 2 Would like to see how a new group reacts
- 1 Is not repetitious
- 1 Gives a teacher the satisfaction that students know what they are doing and why when they finish the course

General comments made by the teachers at the end of the reactionnaire were:

"If the muslin shell is done again, more should be done on the follow-up."

"The needed experience for beginners not gained in this course can be gained in making garments in T.R.A. 252."

"I do not feel that the meaning of the principles as stated can be derived from the statements without further explanation and interpretation."

CHAPTER VI

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary and Conclusions

An analysis of the reactions of a group of students and teachers involved in the newly developed course, Principles of Clothing Construction, was undertaken in this study. Emphasis was placed on the principles in clothing construction rather than manual skills in an effort to provide students of all phases of home economics with a fundamental knowledge of clothing construction. The course was taught for the first time Winter Term, 1962, in the College of Home Economics, Department of Textiles, Clothing, and Related Arts at Michigan State University. The objectives of the study were: (1) to determine the reactions of college students of home economics to the newly developed course, Principles of Clothing Construction, and to the various parts of the course; (2) to explore selective factors of grade point average and sewing experience which may be related to students' reaction toward the course; and (3) to determine the reactions of college instructors teaching the course, Principles of Clothing Construction.

Three instruments called "reactionnaires" were developed to obtain data for this study. At mid-term and at the end of the term, reactionnaires were distributed to the 73 students taking the course Winter Term. At the end of the course reactionnaires were given to

the five teachers involved in the lectures and laboratories.

The student reactionnaires were developed to determine the students' reactions toward the lecture and laboratory in the following aspects: (1) general satisfaction; (2) general opinions about experiences concerning the significance, rate, and level of learning; (3) some indications of the "most" and "least" difficult aspects of the course and recommendations for improvement.

The teacher reactionnaire was developed to determine their reactions toward teaching the course in terms of general reactions and some indication of the problems of teaching the course and recommendations for improvement.

The data from both the student and teacher reactionnaires were analyzed and the results were summarized. Statistical analysis was employed to determine the relationship between items of the student reactionnaires and grade point average, grade for the course, and sewing experience scores of the student. Correlations were determined by the product moment formula.

The following conclusions were drawn on the basis of an analysis of the student and teacher reactionnaires:

1. At mid-term 82 per cent and at the end of the term 94 per cent of the students expressed a favorable attitude toward the course, Principles of Clothing Construction.
2. A majority of the students and teachers believed that more time should be made available for the outside project and for some of the laboratory problems.
3. A majority of the students indicated they understood the four principles.

4. A majority of the students felt they understood the construction process presented during the course; gussets and buttonholes were the least understood construction processes.
5. Students thought that previous sewing experience was advantageous in this course, which was supported by the finding that those persons with high sewing experience scores tended to receive higher grades in the course.
6. Students with previous sewing experience tended to understand principles and construction processes better than did those students with little or no previous sewing experience.
7. A majority of students felt the course would benefit them in their future clothing construction.
8. Forty-seven of the 73 students and four of the five teachers indicated the degree of difficulty of the course was challenging.
9. All of the teachers expressed a favorable attitude toward teaching the course although several changes were recommended.
10. A majority of the students and teachers felt Principles of Clothing Construction would be a better course if the following changes were made:
 - A. Laboratory should be divided on the basis of previous sewing experience; lecture need not be divided for experienced and inexperienced groupings.
 - B. Explanations in lecture concerning a laboratory experience should precede the laboratory experience.
 - C. Beginning students in clothing construction should take additional course work (T.R.A. 252) for more sewing experience before taking advanced clothing courses.

- D. More time in laboratory should be allowed for supervision of the dress projects.

Recommendations

From the findings of this study, the following recommendations are made concerning the course, Principles of Clothing Construction:

1. This experimental approach should be continued.
2. Laboratory should be divided on the basis of previous sewing experience; lecture need not be divided for experienced and inexperienced groupings.
3. Students needing additional clothing construction experience after this course should be directed to additional sewing course work.

Recommendations for further studies include:

1. Other courses in the clothing construction series should be analyzed and evaluated.
2. A comparison study of students who have had the new course and those who had the course before revision should be conducted as a part of the evaluation of Principles of Clothing Construction.
3. Other courses in the department of Textiles, Clothing, and Related Arts should be analyzed and evaluated.
4. A follow-up study should be conducted on the student sample when they graduate to determine the effectiveness of the course, Principles of Clothing Construction.

APPENDICES

APPENDIX A

STUDENT'S REACTIONNAIRE

Grade Point Average _____ Major _____

Lecture Section: 1. Loder _____ 2. Stewartson _____

Laboratory Section: 1. Loder _____ 2. Bjorngaard _____ 3. Stewartson _____
4. Winkler _____ 5. Gephart _____

Directions: The purpose of this reactionnaire is to determine your feelings toward your clothing course. You need not sign your name. Your reactions will not affect your grade in any way and will not be identified to your teachers.

Carefully consider each question, then record your reaction by circling the number 5, 4, 3, 2, or 1. We are especially interested in any comments you may wish to make about the course content and the type of instruction. A space is provided for you to make comments.

PART I. HOW WELL DO YOU FEEL YOU UNDERSTAND PRINCIPLES 1, 2, and 3?

	Understand very well	Understand most of it	Understand some of it	Understand very little	Do not understand
<u>Principle 1:</u> Shaping flat fabric to conform to body curves requires reducing the perimeter of garment pieces	5	4	3	2	1
<u>Principle 2:</u> When concentric circles or arcs of different radii are used in clothing construction, certain adjustments in the circumference are necessary	5	4	3	2	1
<u>Principle 3:</u> Manipulation of any given material is dependent upon its component parts	5	4	3	2	1

PART II. HOW WELL HAS THE LABORATORY HELPED YOU TO APPLY WHAT YOU HAVE LEARNED?

	Excellently	Very Well	Fairly Well	Not well Enough	Poorly
Adjusting and working with the sewing machine	5	4	3	2	1
Fitting your paper pattern	5	4	3	2	1
Constructing the muslin garment	5	4	3	2	1
Analysis of the finished muslin garment	5	4	3	2	1

PART III. HOW DO YOU LIKE THIS APPROACH TO CLOTHING CONSTRUCTION?

I like it very much____;I like it fairly well____;I do not like it____;

I do not know_____

Explain:

Remarks and Comments on your feelings about this course:

a. Lectures

b. Laboratories

APPENDIX B

STUDENT'S SECOND REACTIONNAIRE

Grade Point Average _____ Major _____

Lecture Section: 1.Loder _____ 2.Stewartson _____

Laboratory Section: 1.Loder__ 2.Bjorngaard__ 3.Stewartson__ 4.Winkler__
5.Gephart__

The purpose of this reactionnaire is to determine your reactions to the course, T.C.R.A. 152. Your reactions will not affect your grade in any way and will not be identified to your teacher.

PART I. GENERAL REACTION

1. How do you like this approach to clothing construction?

I like it very much____; I like it fairly well____; I do not like it____ ;

I do not know_____.

Explain

2. Do you feel any changes should be made in the lecture? yes__no__

If you checked "yes", explain the changes you feel should be made.

3. Do you feel any changes should be made in the laboratory? yes__no__

If you checked "yes", explain the changes you feel should be made.

PART II. REACTION TO SPECIFIC PARTS OF THE COURSE

1. How well do you feel you understand principles 1, 2, 3, and 4?
Record your level of understanding of the following by circling the
number 5, 4, 3, 2, or 1.

	Understand very well	Understand most of it	Understand some of it	Understand very little	Do not understand
<u>Principle 1:</u> Shaping flat fabric to conform to body curves requires reducing the perimeter of garment pieces.	5	4	3	2	1
<u>Principle 2:</u> When con- centric circles or arcs of different radii are used in clothing con- struction, certain ad- justments in the cir- cumference are necessary.	5	4	3	2	1
<u>Principle 3:</u> Manipula- tion of any given material is dependent upon its component parts.	5	4	3	2	1
<u>Principle 4:</u> Choice of construction methods and techniques and choice of fabric are interrelated.	5	4	3	2	1

Comments:

2. Now that you have completed this course, how well do you feel the
laboratory has helped you to apply what you have learned?

	Excellentlly	Very well	Fairly Well	Not well Enough	Poorly
Adjusting and working with the sewing machine	5	4	3	2	1
Fitting your paper pattern	5	4	3	2	1
Constructing the muslin garment	5	4	3	2	1
Analyzing the finished muslin garment	5	4	3	2	1

3. How well do you feel you understand the following specific construction processes:

	Excellently	Very well	Fairly well	Not well enough	Poorly
Handling of curves	5	4	3	2	1
Gussets	5	4	3	2	1
Reinforcement of clips	5	4	3	2	1
Choice of lining, under-lining, inter-facing and facing	5	4	3	2	1
Temporary construction, basted fittings	5	4	3	2	1
Seams and seam finishes	5	4	3	2	1
Corded buttonholes	5	4	3	2	1
Pressing	5	4	3	2	1
Facings	5	4	3	2	1
Slide fasteners or zippers	5	4	3	2	1
Waistline seams	5	4	3	2	1
Waistbands	5	4	3	2	1
Hems	5	4	3	2	1

4. To what extent did your work in lecture and laboratory help you in making your outside project (the dress)?

LECTURE: Very much _____ Somewhat _____ Very little _____ Not at all _____

LABORATORY: Very much _____ Somewhat _____ Very little _____ Not at all _____

Explain:

5. What part of the course did you feel was most difficult?

How do you explain this?

6. What part of the course did you feel was least difficult?

How do you explain this?

7. To what extent do you believe this course will help you in future clothing construction? Record your answer by circling 5, 4, 3, 2, or 1.

	Excellent	Very Well	Fairly Well	Very Little	Not at All
It will help me apply principles to new clothing construction.	5	4	3	2	1
It will help me to teach others.	5	4	3	2	1
It will help me to answer more intelligently the questions people ask.	5	4	3	2	1
It will help me to analyze construction problems quickly.	5	4	3	2	1
It will help me feel independent in constructing clothing.	5	4	3	2	1
It will help me enjoy clothing construction.	5	4	3	2	1
It will help make clothing construction easier.	5	4	3	2	1
It will help me make my clothing construction look more professional.	5	4	3	2	1

8. What is your reaction to the general level of difficulty of this course? Check as many as apply.

- ☐ A. Failed to grasp many points
☐ B. About right to be challenging
☐ C. Too much busy work for college level
☐ D. Too much repetition
☐ E. Could have learned this by myself
☐ F. Other reactions _____
- _____
- _____

9. What do you feel about the difficulty of the course in relation to other courses in the college? Check one.

_____ A. Most difficult course I've had
_____ B. More difficult than many
_____ C. About as difficult as other courses
_____ D. Less difficult than other courses
_____ E. Least difficult of my courses
_____ F. Other reactions _____

10. What do you feel about the amount of work required in relation to the credits earned? (This is a three credit course)

_____ A. Too much
_____ B. About right
_____ C. Not enough

Explain:

11. Would you recommend this course to a friend? Yes _____ No _____ I don't know _____

Why?

APPENDIX C

TEACHER'S REACTIONNAIRE

The purpose of this reactionnaire is to determine your reactions to the course, Principles of Clothing Construction, TCRA 152.

1. What part of Principles of Clothing Construction did you teach?

Lecture_____ Laboratory_____

2. How do you like teaching this new approach to clothing construction?

I like it very much____;I like it fairly well____;I do not like it_____;

Explain:_____ I do not know_____.

3. Do you feel any changes should be made in the lecture? Yes___No___

If you checked yes, explain the changes you feel should be made.

4. Do you feel any changes should be made in the laboratory? Yes___No___

If you checked yes, explain the changes you feel should be made.

5. What part of the course did you feel was most difficult to teach?

How do you explain this?

6. What part of the course did you feel was least difficult to teach?

How do you explain this?

7. A. To what extent do you feel the work in lecture and laboratory helped students in making their outside projects (the dress)?

Very much_____Somewhat_____Very little_____Not at all_____

- B. To what extent did you feel the principles which were taught were applied to the students' outside projects?

Very much_____Somewhat_____Very little_____Not at all_____

- C. What was your impression of the outside projects?

8. How do you feel this course will affect students in future clothing construction?

9. What is your reaction to the general level of difficulty of this course?

____ A. Students failed to grasp many points

____ B. About right to be challenging

____ C. Too much busy work for college level

____ D. Too much repetition

____ E. Students could have learned this by themselves

____ F. Other reactions _____

10. How do you feel about the difficulty of the course in relation to other courses with which you are familiar? Check one.

____ A. Most difficult course

____ B. More difficult than many

____ C. About as difficult as other courses

____ D. Less difficult than other courses

____ E. Least difficult course

____ F. Other reactions _____

11. How do you feel about the amount of work required of students in relation to the credits earned? (This is a three credit course)

____ A. Too much

____ B. About right

____ C. Not enough

Explain:

15. General comments about the course not covered in this reactionnaire:

Thank you for your cooperation in filling out this reactionnaire.

APPENDIX D
COURSE SCHEDULE

Week	Lecture	Laboratory
1	Course Introduction present Principle 1	Machine Operation
2	Pattern Fitting Alterations	Pattern Fittings for Muslin Masters
3	Alterations (finish) Present Principle III (grain)	Muslin layouts, Marking
4	Finish Principle III Present Principle II (curves)	Analysis of finished muslin garments
5	Present Construction Process Midterm	Paper pattern fittings for projects
6	Present Principle IV Choice of lining, under- lining, interfacing, facing	Handling curves, gussets, reinforcing clips
7	Temporary construction, basted fittings Seams, seam finishes	Buttonholes, corded and machine made
8	Pressing, Facings	Zippers
9	Waistline seams, waistbands Hems	Finishing problems on projects
10	Review day--summarize prin- ciples, summarize standards	

APPENDIX E

The Pearson Product Moment Coefficient of Correlation used in the statistical analysis in Chapter IV, page 42 was as follows:

$$r = \frac{\sum XY - \frac{(\sum X)(\sum Y)}{N}}{\sqrt{\left[\sum X^2 - \frac{(\sum X)^2}{N} \right] \left[\sum Y^2 - \frac{(\sum Y)^2}{N} \right]}}$$

For a complete explanation of this formula see:

Morris Zelditch, Jr., A Basic Course in Sociological Statistics,
(New York: Henry Holt and Company, 1959), p. 192.

APPENDIX F

Explanation of Sewing Experience Score: Each one of the following questions which is preceded by an asterisk (*) was given points, making a total of 50 points. Each student was then given a sewing experience score from 1 - 50 depending on the way that student answered the question.

STUDENT EXPERIENCE QUESTIONNAIRE

Name _____ Class _____ Grade Point _____

Academic advisor _____ Proposed major _____

If TCRA 152 required? _____ elective? _____

*Do you expect to take additional clothing courses? _____

Have you had previous courses (high school or college) in color and design? _____ *textiles? _____ plane geometry? _____

*Do you sew for yourself or others at home? Yes _____ No _____

*Have you completed 4-H clothing projects? Yes _____

Approximate number of projects _____ No _____

In high school, did you have clothing work in

	Approx. No. weeks spent on clothing projects	No. of projects completed
*Junior High _____	_____	_____
*Senior High _____	_____	_____

*Do you usually need advice and assistance from a teacher or more experienced person in order to complete a sewing project? _____

*On the basis of your previous experience and present feeling of confidence about your sewing abilities, would you rate yourself as:

a real beginner _____	fairly experienced _____
fairly inexperienced _____	very experienced _____

*Have you ever operated a sewing machine? Yes _____ Electric _____
Treadle _____

No _____

*List the fabrics with which you have had experience. Underline the one which you felt was most difficult to work with.

*Describe the most difficult or most advanced sewing project you have attempted. Indicate what item or items gave you a challenge.

*Have you had experience with:

fitting a pattern _____

altering a pattern _____

plaids or napped fabrics _____

set-in sleeves _____

waistline seams _____

applied collars _____

zippers _____

bound buttonholes _____

interfacings _____

facings _____

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