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Differentiated abilities in clothing.

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DIFFERENTIATED ABILITIES IN CLOTHING.

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DIFFERENTIATED ABILITIES IN CLOTHING

by

Barbara L. Richardson

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Requirements for the Master of Science Degree

Massachusetts State College

1940



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INTRODUCTION

Chapter I

INTRODUCTION

Some time ago the belief was common that anyone, regardless of scholastic ability, could be a success in the field of home economics. This idea still is frequently encountered among both educators and laymen. It is the purpose of this study to determine whether some phases of subject-matter covered in the average high-school clothing course are more difficult than others for pupils of low scholastic ability, and if so, specifically what these items are. In addition, we have tried to discover whether or not some items are always grasped easiest and quickest by the brighter pupils or whether intelligence plays no great part in the ability to do some phases of clothing work. It has been assumed that some things which are taught in home economics courses are very difficult for any except superior pupils, that other things are understood by only the superior and average groups, while still other things are possible of achievement by the lower groups as well. If it were possible to determine the relative difficulty of a large number of items, a course could be planned which would be sufficiently differentiated that it would challenge pupils at each level of intelligence and yet be possible of mastery by all.

REVIEW OF RELATED LITERATURE

Chapter II

REVIEW OF RELATED LITERATURE

Before beginning a discussion of the results of this study and their implications, it might be well to consider briefly some of the known facts regarding the relationship of intelligence and ability in various fields.

Three principles are associated with intelligence. The first is the "principle of difficulty or level", which states that the harder the task a person can perform, the greater is his intelligence. The second principle is that of "range or width", maintaining that the person who can do more tasks of a given degree of difficulty than can another has the greater intelligence. The final principle, or that of "speed", is based upon the theory that he who can respond more quickly than another is regarded as the more intelligent. ¹

High intelligence, in general, depends upon ability to (a) observe accurately, (b) perceive correct relations, (c) learn and remember, and (d) take a mental set and maintain it in an optimal manner. ²

According to Brooks, a pupil with good mental ability

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1. Sandiford, P., "Educational Psychology", p.146-7.
 2. Jordan, A. M., "Educational Psychology", p.409.

has a distinct advantage over a duller child in (a) powers of critical observation, (b) seeing relations, (c) grasping meanings, and (d) accurately discriminating differences in meanings. ¹

Persons with lowest grades of intelligence do not have the ability to make moral decisions because they have not the ability to anticipate the results of their acts. ² Normal subjects surpass the feeble-minded most decisively when the subject-matter to be mastered involves reasoning and generalizing, and least decisively when the material is concrete and the process sensori-motor. ³ The gifted are a great deal ahead in emotional, moral, and physical traits, but only slightly ahead in social traits. ⁴

Purvis has found that the upper levels of intelligence show a greater ability in some fields than in others, particularly in those which require complex analysis. He believes that the difference between those of high intelligence lies not only in the quality of work but also in the quantity of work which they can do. He found considerable difference in ability among the various levels of intelligence in (a) identification of work meaning, (b) recognition of relationships, (c) causes and effects, (d) arithmetic involving more than one operation. Some

1. Brooks, F. D., "Child Psychology", p. 203.
2. Jordan, A. M., *op. cit.*, p. 411.
3. *Ibid*, pp. 503-4.
4. *Ibid*, pp. 510-11.

difference was noted in (a) word usage, (b) direct association, (c) indirect association, (d) recognition of definitions. There was little evidence of difference in (a) word usage involving drill associations, (b) meaning of a reference.

From these results he inferred that differences in favor of those of higher intelligence included (a) greater imagination, (b) greater proficiency with abstractions, (c) more active working vocabulary, (d) greater ability to generalize, (e) greater ability in analysis of situations, (f) greater ability in detecting fine shades of meaning, (g) ability to analyze larger wholes, (h) a habit of more extensive reading, (i) greater ability to visualize mentally, and (j) greater ability to organize material of learning. 1

Jordan has listed the following points in favor of the gifted students:

Physical abilities - (a) able to tap more effectively, (b) have superior body weight, (c) have stronger grip. (d) excel in average standing height.

Interests - (a) more interested in reading, (b) science, (c) history and economics, (d) English, (e) mathematics; (f) same interest in music, (g) languages, (h) commercial work; (i) less interest in manual work.

Mental abilities - (a) superior in reaction to opportunity to lie and cheat, (b) superior in judgement of moral

1. Purvis, A. W., "Different Intelligence Levels of Secondary School Pupils", pp. 147-9.

situation, (c) definitely superior in self-confidence, (d) sense of humor, (e) desire to excel, (f) truthfulness, (g) desire to know, (h) originality, (i) common sense, (j) general intelligence. ¹

Results of these studies would seem to indicate that pupils with low levels of intelligence should encounter no greater difficulty in clothing courses than should those with higher intelligence. High intelligence seems to carry with it superiority in mental ability and interest in academic subject-matter, neither of which is associated, in the minds of most individuals, with home economics. In fact, as has been stated, intellectually superior pupils have less interest in manual work, which would usually include clothing. It has not been determined to what extent the self-confidence, desire to excel and to know, originality, and common sense of the bright pupils will compensate for lack of superiority and interest in the manual work involved or how great an influence superiority in academic work would have on the mental processes involved in the study of clothing.

As far as is known, no work has been done previously toward determining which phases of clothing work are hardest for pupils of different levels of intelligence or which can be handled by all groups equally well.

1. Jordan, A. M., op. cit., pp. 510-11.

PURPOSE AND PROCEDURE

Chapter III

PURPOSE AND PROCEDURE

(1) The Problem - This study was conducted in an attempt to discover whether or not some items in high school clothing courses are regularly mastered more easily by the more intelligent pupils, what these items are, if any, and which items can be successfully handled by pupils at each level of intelligence.

(2) The Material - A check-list was constructed, composed of eighty-five detailed items of subject-matter and skill which are usually included in junior and senior high school clothing courses as indicated by the content of several text-books examined. The attempt was made to cover as completely as possible, and yet remain within reasonable limits of length, all phases of the work. It was necessary to have items representing the acquisition of skills, knowledge, and attitudes. They were so arranged that it was possible to indicate by placing check marks in the proper places whether the item could be easily grasped by the bright pupils only, by the bright and average, or by the bright, average, and dull with approximately equal facility. Throughout the check-list an attempt was made to distinguish between knowledge and abilities or skills in order to determine whether any possible difference among the three groups lied in the field of mental or theoretical

abilities or in annual and practical dexterity.

(3) The Subjects - The completed check-lists together with letters of explanation were sent to one hundred secondary school teachers of home economics in Massachusetts selected at random, but representing city, town, junior, and senior high schools.

(4) The Procedure - The first step was the construction of the check-list to be sent to home economics teachers in order that they might check whether, in their opinions, each item might be taught easily to only the bright pupils, to the bright and average, or to the bright, average, and dull pupils. An item was to be considered as easily taught if the pupils could grasp it after one presentation.

The next step was the tabulation of the results. For every item the number of checks for each of the three groups of intelligence was turned into a percentage of the total number of check-lists used.

The final task was the interpretation of the results. The interpretation was based upon the assumption that if thirty percent of the teachers checked an item it was possible to teach it to the intelligence group under consideration.

The results which follow are based on forty usable returns. It must be borne in mind that a difference of only a few cases makes a large difference in percentage figures when the total number is as small as forty.

PRESENTATION OF DATA

Chapter IV

PRESENTATION OF DATA

(1) Fabrics - Three items dealing with clothing materials were included in the check-list. Although this phase of the subject is neglected in many schools, it is important and should be added to clothing courses if they are to be complete. Of the three statements, two are concerned with knowledge of the fibers, perhaps only theoretical, while the other deals with ability to actually identify finished materials. The items in this group are (1) Knowledge of distinguishing features of fibers; (2) Knowledge of suitability of uses of each; (3) Ability to identify materials. The results are found in Table I.

Table I
Percentage of Checks for the Dull, Average,
and Bright for the Items on Fabric.

Item	Dull	Average	Bright
1	12	55	100
2	20	90	100
3	5	70	100
4			

If we arbitrarily set thirty percent as the point above which the item can be handled reasonably well, it appears obvious that all of these items are too difficult for the dull group, at least as they are now taught. The average group can master them all fairly well, while the

bright group has no trouble with any of them.

(2) Principles of Design - This group is also often omitted from secondary school clothing courses but is one of the most valuable from the standpoint of future use, since all the girls will be called upon to select their clothes while few may ever construct them. The items, all of them dealing with knowledge, include, (4) Knowledge of suitability of material to pattern; (5) Knowledge of suitability of material to occasion; (6) Knowledge of suitability of material to type of girl; (7) Knowledge of color in relation to pattern; (8) Knowledge of color in relation to texture of material; (9) Knowledge of color in relation type of girl; (10) Knowledge of color in relation to occasion; (11) Knowledge of principles of design in relation to pattern; (12) Knowledge of principles of design in relation to figure; (13) Knowledge of principles of design in relation to occasion. The results will be found in Table II.

Table II
Percentage of Checks for the Dull, Average,
and Bright for Items on Principles of Design.

Item	Dull	Average	Bright
4	22.5	75	100
5	25	92.5	100
6	0	55	100
7	10	45	95
8	5	47.5	97.5
9	22.5	85	100
10	17.5	65	92.5
11	5	60	95
12	12.5	85	95
13	15	47.5	95

Examination of the table shows clearly that all of the items are considered too hard for the dull group, item 6 being apparently impossible for them to grasp. Items 8, 11, and 13 are also practically impossible for them, while items 4 and 9 come the nearest to being on their level as far as difficulty is concerned. The average group can master all the items fairly easily, although items 7, 8, and 13 are not so easily learned. They do nearly as well as do the bright pupils on item 5 which also is the easiest for the dull group. The bright ones have little difficulty with any phase, item 10 being the most difficult for them but not for the other groups, indicating that intelligence may not influence the ease of understanding color in relation to occasion.

(3) Selection of Commercial Pattern - These items are included both because they are essential to a course in clothing construction and because they cover the ability to plan and act upon the decision reached. They also involve the use of a degree of originality and independence in meeting individual problems. The items included are
(14) Ability to select a suitable commercial pattern;
(15) Ability to take measurements to determine size to buy;
(16) Ability to estimate yardage; (17) Ability to check pattern for alterations. Table III shows the results.

Here for the first time, we find two items which the dull can handle reasonably well, items 14, and 15. Item 16 is the hardest for all groups. The bright group can master

Table III
Percentage of Checks for the Dull, Average,
and Bright for Items on Selection of
Commercial Pattern.

Item	Dull	Average	Bright
14	40	87.5	97.5
15	45	85	97.5
16	7	42.5	92.5
17	17.5	67.5	100

item 17 without any difficulty, but it is not the easiest for the other two groups. This again shows the apparent lack of importance of intelligence in determining ease of handling specific phases of the work.

(4) Preparation and Cutting of the Garment - These items are concerned with abilities, except in the case of knowing the meaning of the symbols on the pattern. The phases covered are (18) Ability to recognize parts of the pattern; (19) Knowledge of the meaning of symbols on pattern; (20) Ability to lay pattern on material correctly; (21) Ability to use pins efficiently when cutting and assembling; (22) Ability to cut out garment correctly; (23) Ability to use tailors' tacks appropriately; (24) Ability to assemble pieces of garment properly. Results are shown in Table IV.

Table IV
Percentage of Checks for the Dull, Average,
and Bright for Items on Preparation and
Cutting of the Garment.

Item	Dull	Average	Bright
18	32.5	90	97.5
19	40	92.5	97.5
20	25	75	95
21	40	80	97.5
22	37.5	80	97.5
23	32.5	80	92.5
24	22.5	75	97.5

The items handled most easily by the dull pupils are items 19 and 21. These are two items quite different in character, one being a specific knowledge and the other a definite mechanical skill. Items 20 and 24 are apparently too hard for this group, probably due to the fact that they both require an analysis and recognition of relationships, as well as an ability to visualize mentally. The fact that these same two items are the most difficult for the average group but not for the bright emphasizes the direct relationship of these characteristics to intelligence. As would be expected, the average group can handle none of these items as easily as can the superior group. None of the bright group can handle any item with one-hundred percent ease, however, Item 23 is the hardest for them but not for the other groups.

(5) Fitting the Garment - Only two statements were placed in this group, one a matter of knowledge of the procedures to follow in fitting a garment, and the other a matter of ability to carry out the prescribed procedures. The two items are (25) Knowledge of correct methods of fitting garment to person; and (26) Ability to produce a well-fitted garment. Resulting figures are shown in Table V.

Item	Dull	Average	Bright
25	12.5	47.5	97.5
26	15	67.5	95

In this case, the dull group is not capable of mastering either phase of the topic sufficiently easily. They do only slightly better on the actual process of fitting than they do on the theoretical. The average group can master both phases and does considerably better on the actual work. As would be expected from the findings of psychologists, the bright group is the only one which does better on the theoretical part.

(6) Seam Construction - This group includes eight items, six of them on skill in technique. They are included to determine whether intelligence bears any relationship to ability to baste and stitch straight and evenly in making several types of seams. Two items cover the theoretical knowledge of basting and the distinguishing points of the various kinds of seams and how to make them. The specific items are (27) Knowledge of various types and uses of basting stitches; (28) Ability to do good basting; (29) Knowledge of types and uses of seams; (30) Ability to make straight, even plain seams; (31) Ability to make straight, even French seams; (32) Ability to make straight, even fell seams; (33) Ability to make straight, even lapped seams; (34) Ability to make straight, even corded seams. Table VI shows the figures for this section.

Three items in this section, 29, 32, and 34, are too difficult for the dull group to handle. Item 29 is the one which should cause the most concern as it seems very important.

Table VI
Percentage of Checks for the Dull, Average,
and Bright for Items on Seam Construction.

Item	Dull	Average	Bright
27	57.5	77.5	97.5
28	67.5	95	97.5
29	27.5	92.5	100
30	52.5	95	97.5
31	35	82.5	97.5
32	22.5	62.5	92.5
33	32.5	67.5	95
34	12.5	25	60

The percentages are low for items 32 and 34, largely because these items are not covered in most secondary school clothing courses. This fact, in itself however, shows that they are considered too hard for the slow group. Item 28 is apparently one of the easiest items in the whole list for this group of students. This would be expected, as basting is generally considered very simple.

The average group handles all items reasonably well with the apparent exception of item 34. Since the bright group is also very low on this item, it indicates that it either is very hard or is not taught widely. The latter seems to be the case. It is somewhat surprising that the bright group does better on item 29 than on item 28. This, however, bears out the fact that bright pupils do better on theoretical knowledge than on practical skill. They seem to do equally well on items 27 and 28, one of which involves knowledge of how to baste and the other ability to baste.

(7) Selection of Thread and Needle - These two items are both questions of ability to apply knowledge and see

relationships. They are (35) Ability to choose thread suitable in size and kind; (36) Ability to choose needle suitable in size. The following table shows the figures.

Table VII
Percentage of Checks for the Dull, Average,
and Bright for Items on Selection of Thread
and Needle.

Item	Dull	Average	Bright
35	20	80	95
36	22.5	77.5	97.5

These two items show that dull pupils apparently can not see relationships even between such concrete things as size of needle and size of thread or size of needle and fineness of cloth. There seems to be no meaning to these figures except that the dull can not handle the items satisfactorily while the other two groups can. Neither of the items is harder than the other for all three groups.

(8) Regulation of Sewing Machine - The items vary from the ability to follow explicit dogmatic directions for threading a machine to the ability to reason logically and act upon the conclusions reached for regulating the tension. The items are (37) Knowledge of correct method of threading sewing machine; (38) Knowledge of correct method of regulating length of stitch; (39) Knowledge of correct method of regulating tension. Table VIII shows the resulting figures.

The percentages show quite conclusively that all pupils find hardest those operations which require independent analysis and reasoning, and that the dull students

Table VIII
Percentage of Checks for the Dull, Average,
and Bright for Items on Regulation of the
Sewing Machine.

Item	Dull	Average	Bright
37	65	97.5	100
38	35	67.5	97.5
39	17.5	40	87.5

are the least capable in this respect as well as in that of following instructions. The slow group is not able to regulate the tension correctly and easily, at least according to these results. Even the average group finds it quite difficult. None of the groups has any particular difficulty with learning to thread a machine, the bright group having none whatsoever.

(9) Application of Neck Finishes - Items in this section cover the ability to recognize types of collars, ability to apply them neatly, as well as a knowledge of neck finishes other than collars. It would be entirely possible for a girl to be able to identify a convertible collar and yet be unable to make one. The exact items given are (40) Ability to recognize various types of collars; (41) Knowledge of various methods of making neck finishes; (42) Ability to apply collars neatly. Results will be found in Table IX.

The table reveals obviously the fact that dull pupils do poorer work on items roughly described as "knowledge" items. The percentage of teachers who consider the item easily taught to the dull group dropped considerably on item 41, while for the average and bright groups it remained the same as item 40. All groups do as

Table IX
Percentage of Checks for the Dull, Average,
and Bright for Items on Application of
Collars

Item	Dull	Average	Bright
40	17.5	57.5	92.5
41	2.5	57.5	92.5
42	17.5	95	100

well or better on the actual process of applying collars than on recognition of them, the bright group encountering no difficulty whatever in application. It seems to be a hopeless task to try to teach dull pupils about the various methods of making neck finishes.

(10) Making of Sleeves - These items were set up in the hope of finding a difference not only between knowledge and skill but also in ability to construct sleeves of varying degrees of difficulty. They are (43) Knowledge of distinction between various types of sleeves; (44) Ability to make set-in sleeves; (45) Ability to make raglan sleeves; (46) Ability to make kimono sleeves. The results will be found in Table X.

Table X			
Percentage of Checks for the Dull, Average, and Bright for Items on Making of Sleeves.			
Item	Dull	Average	Bright
43	22.5	62.5	95
44	30	92.5	100
45	25	67.5	77.5
46	60	72.5	77.5

When considering the meaning of these figures it should be kept in mind that many courses touch very lightly upon the construction of raglan and kimono sleeves. This accounts for the fact that the figures are comparatively low for all groups on these two items. It does not alter

the fact, however, that the dull group does nearly as well as the others in making raglan sleeves in those cases where much work is included in the clothing course. The dull group seems to find it easier to work with sleeves in general than with collars, but even here they learn with a great deal of difficulty. Bright pupils seem to rank higher in their ability to set in sleeves than on their knowledge of various types of sleeves, but this may be due to the fact that learning to set in sleeves is required in all courses whereas the distinguishing features of other types of sleeves are not widely taught.

(11) Hemming - These items were inserted for the purpose of observing any possible difference between the groups in the ability to do fine, routine work. It has been often claimed that the daintier and more intricate the work, the greater was the superiority of the dull girls. The figures on these items are found in Table XI. The items are (47) Knowledge of differences among hemming stitches; (48) Knowledge of uses of various hemming stitches; (49) Ability to do plain hemming satisfactorily; (50) Ability to do blind hemming satisfactorily.

Item	Dull	Average	Bright
47	32.5	75	100
48	17.5	72.5	100
49	75	95	100
50	32.5	80	97.5

Once again, the figures for the bright group live up

to expectations. These pupils learn easily the differences and uses of various types of hemming and can do plain hemming well. However, in blind hemming they slip a little. This may be due to lack of emphasis in class so that teachers are unable to judge the ease of teaching it. The average group learns more easily how to actually perform either type of hemming than they learn the characteristics and uses of them. This also holds true in the case of the dull group, although they seem to be able to learn to do blind hemming and distinguish types equally well. They never learn adequately the uses of various hemming stitches, if thirty percent is our minimum for satisfactory learning.

(12) Pockets - These four items cover both knowledge and skill. Two types of pockets are represented in an attempt to see if a patch pocket is actually the easier, as is commonly supposed. It is hoped that results of the second one (item 52) will reveal the development of appreciation for appropriateness by pupils of each level of intelligence. The items, results of which are given in Table XII, are (51) Knowledge of various types of pockets; (52) Knowledge of suitability of various types to garment; (53) Ability to make satisfactorily a patch pocket; and (54) Ability to make satisfactorily a set-in pocket.

Pockets seem either to be quite difficult for pupils of all levels of intelligence or else the making of them is not taught in several schools represented. The former is believed to be the case. All of the students find it easiest to make a patch pocket. Beyond this fact, no clear-

Table XII
Percentage of Checks for the Dull, Average,
and Bright for Items on Pockets.

Item	Dull	Average	Bright
51	15	42.5	90
52	7.5	50	85
53	67.5	87.5	92.5
54	2.5	22.5	87.5

cut conclusions can be drawn. The dull and average find it more difficult to make set-in pockets than to learn any of the other phases mentioned. The dull can never be satisfactorily taught, at least in the existing courses, to set in a pocket or to recognize the suitability or characteristics of various types. The average group also has a great deal of difficulty with item 54.

(13) Buttons and Buttonholes - The next eight items cover the ability to make buttonholes of various types, knowledge of differences among them, and the ability to select and attach buttons well. In the selection and placing of buttons there is offered another opportunity for the demonstration of an appreciation of beauty. The items in this section are (55) Knowledge of distinction between bound, piped, and worked buttonholes; (56) Knowledge of occasion for using each; (57) Ability to make a satisfactory worked buttonhole in cotton; (58) Ability to make a satisfactory bound buttonhole in cotton; (59) Ability to choose buttons correct in style and color; (60) Ability to attach shank buttons correctly; (61) Ability to attach flat buttons correctly; and (62) Ability to space and locate buttons well.

Table XIII
Percentage of Checks for the Dull, Average,
and Bright for Items on Buttons and
Buttonholes.
**

Item	Dull	Average	Bright
55	35	75	
56	10	47.5	92.5
57	40	32.5	92.5
58	32.5	87.5	95
59	20	70	92.5
60	47.5	75	92.5
61	77.5	95	80
62	20	85	100
			100

Of these items, dull pupils are not able to handle 56, 59, and 62. This fact, in addition to the fact that these same items are among the easiest for the bright group, bears out the belief that dull pupils have more difficulty when they are required to make selections, use imagination, and originality, or visualize mentally. Attaching flat buttons is the second easiest phase of work included in the entire check-list for the dull pupils. All bright pupils can do this very easily in the opinion of all teachers. They have no trouble whatever with spacing and locating buttons, which is one of the hardest for the dull pupils.

(14) Facings and Bindings - This is an important phase of clothing work since the appearance of garments depends greatly upon the finishings, many of which are bindings and facings. If any aspect of this procedure is too difficult for the dull, as now taught, some changes should be made so that they can grasp it.

The items are (63) Knowledge of distinction between bindings and facings; (64) Knowledge of occasion for using

fitted, bias, straight facing; (65) Ability to apply facing correctly; (66) Ability to apply binding correctly. The results on these items are shown in Table XIV.

Table XIV
Percentage of Checks for the Dull, Average,
and Bright for Items on Facings and Bindings.

Item	Dull	Average	Bright
63	17.5	65	97.5
64	2.5	37.5	92.5
65	25	90	100
66	32.5	90	100

Of these items, only 66 is easy enough to be handled at all adequately by the dull group. An examination of the percentages for all items in the dull group seems to bear out the theory that slow pupils do better on skill items than on knowledge items. However, the average and bright groups follow the same order, whereas it has been contended that the bright, at least, should do better on knowledge items. Item 64 is hard for all groups, as it calls for a fairly high degree of discrimination and analysis. The bright group has no difficulty with the actual application of facings and bindings.

(15) Patching and Darning - The ability to patch and darn well is an asset to anyone's accomplishments and should be made available to persons of all levels of intelligence. Although situations will vary slightly, it is usually considered that darning and patching are merely routine procedures requiring little ingenuity. Hence, dull pupils should do as well as, if not better than, the bright, because of their greater interest and ability in manual work. The specific items used to gather information on

this point are (67) Knowledge of methods of patching; (68) Ability to apply a neat, serviceable patch; (69) Knowledge of method of darning; and (70) Ability to make a neat, serviceable darn. Results are found in Table XV.

Item	Dull	Average	Bright
67	45	82.5	92.5
68	40	82.5	90
69	55	90	87.5
70	40	80	90

As would be expected by the average person, this group of items, as a group, is the easiest of any included on the check-list for the dull to master. However, within the group, the items most easily handled by the dull are those dealing with knowledge rather than with skills. There seems to be no way of predicting how the bright and average group will do on the items. Item 69, which is the hardest for the bright group is the easiest for the dull group. The differences between percentages within one intelligence group is so slight that it is useless to try to draw any conclusion other than that the bright group handles the items slightly more easily than the average group and much more easily than the dull group.

(16) Pressing Materials - Satisfactory handling of these items requires neatness and patience as well as a knowledge of the treatment required by each type of material. Five of the items are concerned with the theoretical knowledge of the proper ways of handling each one. (71) Knowledge of the technique of pressing cotton material;

(72) Knowledge of technique of pressing linen material;
(73) Knowledge of technique of pressing woolen material;
(74) Knowledge of technique of pressing silk material;
(75) Knowledge of technique of pressing rayon material. The other item in this group covers the ability to apply the principles of pressing to actual garments. (76) Ability to press well.

Table XVI
Percentage of Checks for the Dull, Average,
and Bright for Items on Pressing Materials.

Item	Dull	Average	Bright
71	65	90	95
72	52.5	75	87.5
73	40	77.5	95
74	37.5	75	95
75	37.5	82.5	97.5
76	50	87.5	97.5

In practice, it is hard to distinguish between a person's knowledge of methods of pressing and her ability to press because there is little opportunity to test such knowledge except by use. There are a few general rules which should be common information, however, such as the fact that cotton can stand the hottest iron of any material, and that woolen material should be dampened before pressing. No clear-cut conclusions can be reached from these figures. It seems strange that the item handled most adequately by the superior group is the one on ability, while the slow group does best on two information items (71 and 72). All groups handle these items white easily.

(17) General Success of Articles Made - These items were included primarily to determine whether some articles

constructed in clothing courses are much too difficult for the dull pupils or so easy for the bright group that they produce completely satisfactory garments with no difficulty. The items are (77) Ability to turn out a generally successful pot holder; (78) Ability to turn out a generally successful towel; (79) Ability to turn out a generally successful apron; (80) Ability to turn out a generally successful slip or pair of pajamas; and (81) Ability to turn out a generally successful dress. The results are shown in Table XVII.

Table XVII
Percentage of Checks for the Dull, Average,
and Bright for Items on General Success
of Articles Made.

Item	Dull	Average	Bright
77	65	90	95
78	75	80	77.5
79	80	95	95
80	52.5	95	95
81	32.5	90	100

These figures seem to be somewhat contradictory to previous results since it seems evident here that the dull are capable of producing satisfactory articles and yet it has looked as though they are utterly unable to grasp some of the steps that make up the whole. This probably indicates that teachers give the dull pupils sufficient help at the difficult spots so that their finished products are satisfactory. They are able to make quite well the simpler articles, as holders, towels, and aprons, but, as would be expected, run against difficulties in more complicated pajamas or dresses. On the other hand, the bright pupils

do their most satisfactory work on dresses. This tends to emphasize the theory that those with higher intelligence do better on work which challenges their ability and which is not simply monotonous repetition, as hemming a towel. In general success, the average pupils do nearly as well as the bright. In fact, when it comes to hemming towels, they are superior, due probably to greater interest.

(18) Originality and Efficiency - These four items deal with personal characteristics rather than with acquired abilities or knowledge. They are included to further determine their relationship to intelligence. The items are (82) Ability to work without aid at each step of construction; (83) Use of originality in details; (84) Ability to use thimble correctly; and (85) Efficiency in motions. The results are shown in Table XVIII.

Item	Dull	Average	Bright
82	0	20	92.5
83	0	7.5	100
84	57.5	72.5	92.5
85	5	37.5	97.5

These figures show conclusively that it is utterly useless to expect dull pupils to work without a great deal of aid or to use originality in planning and construction. This supports the beliefs that less intelligent persons lack imagination and the ability to make decisions. It apparently is supposed that bright pupils have no

difficulty with employing originality and are able to work independently quite well. The ability to use a thimble seems to bear some relationship to intelligence, while efficiency seems definitely to do so. As would be expected from the foregoing discussion, the dull are very poor when it comes to efficient planning.

CONCLUSIONS AND LIMITATIONS

Chapter V

CONCLUSIONS AND LIMITATIONS

This study was conducted to determine whether some items taught in clothing courses are always grasped quickest and easiest by the bright pupils or whether intelligence play little part in ability to do clothing work. An attempt was made to determine which items generally included in a secondary school clothing course are too hard for pupils of each level of intelligence and which can be adequately handled by them.

(1) Items Believed Possible for the Dull Group -

- (14) Ability to select a suitable commercial pattern.
- (15) Ability to take measurements to determine size to buy.
- (18) Ability to recognize parts of the pattern.
- (19) Knowledge of the meaning of symbols on pattern.
- (21) Ability to use pins efficiently when cutting and assembling.
- (22) Ability to cut out garment correctly.
- (23) Ability to use tailors' tacks appropriately.
- (27) Knowledge of various types and uses of basting stitches.
- (28) Ability to do good basting when necessary.
- (30) Ability to make straight, even plain seams.
- (31) Ability to make straight, even French seams.

- (33) Ability to make straight, even lapped seams.
- (37) Knowledge of correct method of threading sewing machine.
- (38) Knowledge of correct method of regulating length of stitch.
- (44) Ability to make set-in sleeves.
- (46) Ability to make kimono sleeves.
- (47) Knowledge of differences among hemming stitches.
- (49) Ability to do plain hemming satisfactorily.
- (50) Ability to do blind hemming satisfactorily.
- (53) Ability to make satisfactorily a patch pocket.
- (55) Knowledge of distinction between bound, piped, and worked buttonhole.
- (57) Ability to make a satisfactory worked buttonhole in cotton.
- (58) Ability to make a satisfactory bound buttonhole in cotton.
- (60) Ability to attach shank buttons correctly.
- (61) Ability to attach flat buttons correctly.
- (66) Ability to apply binding correctly.
- (67) Knowledge of methods of patching.
- (68) Ability to apply a neat, serviceable patch.
- (69) Knowledge of method of darning.
- (70) Ability to make a neat, serviceable darn.
- (71) Knowledge of technique of pressing cotton material.
- (72) Knowledge of technique of pressing linen material.
- (73) Knowledge of technique of pressing woolen material.

- (74) Knowledge of technique of pressing silk.
- (75) Knowledge of technique of pressing rayon.
- (76) Ability to press well.
- (77) Ability to turn out a generally successful pot holder.
- (78) Ability to turn out a generally successful towel.
- (79) Ability to turn out a generally successful apron.
- (80) Ability to turn out a generally successful slip or pair of pajamas.
- (81) Ability to turn out a generally successful dress.
- (84) Ability to use thimble correctly.

(2) Items Believed Too Difficult for Dull Group -

- (1) Knowledge of distinguishing features of fibers.
- (2) Knowledge of suitability of uses of each.
- (3) Ability to identify materials.
- (4) Knowledge of suitability of material to pattern.
- (5) Knowledge of suitability of material to occasion.
- (6) Knowledge of suitability of material to type of girl.
- (7) Knowledge of color in relation to pattern.
- (8) Knowledge of color in relation to texture of material.
- (9) Knowledge of color in relation to type of girl.
- (10) Knowledge of color in relation to occasion.
- (11) Knowledge of principles of design in relation to pattern.
- (12) Knowledge of principles of design in relation to figure.
- (13) Knowledge of principles of design in relation to

occasion.

- (16) Ability to estimate yardage.
- (17) Ability to check pattern for alterations.
- (20) Ability to lay pattern on material correctly.
- (24) Ability to assemble pieces of garment properly.
- (25) Knowledge of correct methods of fitting garment to person.
- (26) Ability to produce a well-fitted garment.
- (29) Knowledge of types and uses of seams.
- (32) Ability to make straight, even fell seams.
- (34) Ability to make straight, even corded seams.
- (35) Ability to choose thread suitable in size and kind.
- (36) Ability to choose needle suitable in size.
- (39) Knowledge of correct method of regulating tension.
- (40) Ability to recognize various types of collars.
- (41) Knowledge of various methods of making neck finishes.
- (42) Ability to apply collars neatly.
- (43) Knowledge of distinction between various types of sleeves.
- (45) Ability to make raglan sleeves.
- (48) Knowledge of uses of various hemming stitches.
- (51) Knowledge of various types of pockets.
- (52) Knowledge of suitability of various types to garment.
- (54) Ability to make satisfactorily a set-in pocket.
- (56) Knowledge of occasion for using each type of buttonhole.
- (59) Ability to choose buttons correct in style and color.
- (62) Ability to space and locate buttons well.

- (63) Knowledge of distinction between bindings and facings.
- (64) Knowledge of occasion for using fitted, bias, and straight facing.
- (65) Ability to apply facing correctly.
- (82) Ability to work without aid at each step of construction.
- (83) Use of originality in details.
- (85) Efficiency in motions.

(3) Items Believed Too Difficult for Average Group -

- (34) Ability to make straight, even corded seams.
- (54) Ability to make satisfactorily a set-in pocket.
- (82) Ability to work without aid at each step of construction.
- (83) Use of originality in details.

In order to place a great deal of confidence in a study of this kind, there are several weaknesses which should be recognized.

(1) Use of Questionnaire - The most serious limitation lies basically in the use of the questionnaire method. There are many opportunities in this procedure for errors to creep in. The check-list itself may have been at fault in that it was not an adequate sampling of the field, even though critically constructed. The directions may have been difficult to follow or the statement of some of the items may have been confusing to those who checked them.

(2) Personal Opinion of Teachers - Another possible

source of error lies with the teachers who were asked to check the questionnaire. The group selected at random may not actually have been a representative one. A large proportion may have been located in unusually large or unusually small schools. Without doubt, many teachers went through the list giving very little thought to each item. Since the list was quite long, this procedure would be only natural.

(3) Small Number of Returns - The third weakness is due to the small number of returns. Only forty-four replies were received and results were based on tabulation of forty usable ones.

CHECK LIST

Please indicate by checking in the spaces provided before each item whether, in your opinion, that item may be easily taught to only the bright pupils, to the bright and average, or to the bright, average, and dull. If, by any chance, dull pupils do better on any item than the bright or average, be sure to indicate it.

If fairly satisfactory results can be obtained after presenting the material once, consider the item easily taught. Class the pupils as dull, average, or bright according to general scholastic ability. If you do not cover some items in your courses, please write the word "none" before them.

The following are examples of the four possibilities.

Dull Ave. Bright

- | | | | |
|-------------------------------------|-------------------------------------|-------------------------------------|--|
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | This item can be adequately grasped by the three groups. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | This item can be grasped by the average and superior groups. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | This item can be grasped by the superior pupils only. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | This item is one handled by the inferior pupils better than by others. (There may be a few of these) |

Dull Ave. Bright

- | | | | |
|--------------------------|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Knowledge of distinguishing features of fibers. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Knowledge of suitability of uses of each. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Ability to identify materials. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Knowledge of suitability of material to pattern. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Knowledge of suitability of material to occasion. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Knowledge of suitability of material to type of girl. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Knowledge of color in relation to pattern. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Knowledge of color in relation to texture of material. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Knowledge of color in relation to type of girl. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Knowledge of color in relation to occasion. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Knowledge of principles of design in relation to pattern. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Knowledge of principles of design in relation to figure. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Knowledge of principles of design in relation to occasion. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Ability to select a suitable commercial pattern. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Ability to take measurements to determine size to buy. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Ability to estimate yardage. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Ability to check pattern for alterations. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Ability to recognize parts of the pattern. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Knowledge of the meaning of symbols on pattern. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Ability to lay pattern on material correctly. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Ability to use pins efficiently when cutting and assembling |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Ability to cut out garment correctly. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Ability to use tailors' tacks appropriately. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Ability to assemble pieces of garment properly. |

Dull Ave. Bright

- () () () Knowledge of correct methods of fitting garment to person.
- () () () Ability to produce a well-fitted garment.
- () () () Knowledge of various types and uses of basting stitches.
- () () () Ability to do good basting when necessary.
- () () () Knowledge of types and uses of seams.
- () () () Ability to make straight, even plain seams.
- () () () Ability to make straight, even French seams.
- () () () Ability to make straight, even fell seams.
- () () () Ability to make straight, even lapped seams.
- () () () Ability to make straight, even corded seams.
- () () () Ability to choose thread suitable in size and kind.
- () () () Ability to choose needle suitable in size.
- () () () Knowledge of correct method of threading sewing machines.
- () () () Knowledge of correct method of regulating length of stitch.
- () () () Knowledge of correct method of regulating tension.
- () () () Ability to recognize various types of collars.
- () () () Knowledge of various methods of making neck finishes.
- () () () Ability to apply collars neatly.
- () () () Knowledge of distinction between various types of sleeves.
- () () () Ability to make set-in sleeves.
- () () () Ability to make raglan sleeves.
- () () () Ability to make kimono sleeves.
- () () () Knowledge of differences among hemming stitches.
- () () () Knowledge of uses of various hemming stitches.
- () () () Ability to do plain hemming satisfactorily.
- () () () Ability to do blind hemming satisfactorily.
- () () () Knowledge of various types of pockets.
- () () () Knowledge of suitability of various types to garment.
- () () () Ability to make satisfactorily a patch pocket.
- () () () Ability to make satisfactorily a set-in pocket.
- () () () Knowledge of distinction between bound, piped, worked buttonhole.
- () () () Knowledge of occasion for using each.
- () () () Ability to make a satisfactory worked buttonhole in cotton.
- () () () Ability to make a satisfactory bound buttonhole in cotton.
- () () () Ability to choose buttons correct in style and color.
- () () () Ability to attach shank buttons correctly.
- () () () Ability to attach flat buttons correctly.
- () () () Ability to space and locate buttons well.
- () () () Knowledge of distinction between bindings and facings.
- () () () Knowledge of occasion for using fitted, bias, straight facing.
- () () () Ability to apply facing correctly.
- () () () Ability to apply binding correctly.

Dull Ave. Bright

- Knowledge of methods of patching.
- Ability to apply a neat, serviceable patch.
- Knowledge of method of darning.
- Ability to make a neat, serviceable darn.
- Knowledge of technique of pressing cotton material.
- Knowledge of technique of pressing linen material.
- Knowledge of technique of pressing woolen material.
- Knowledge of technique of pressing silk.
- Knowledge of technique of pressing rayon.
- Ability to press well.
- Ability to turn out a generally successful pot holder.
- Ability to turn out a generally successful towel.
- Ability to turn out a generally successful apron.
- Ability to turn out a generally successful slip or pajamas
- Ability to turn out a generally successful dress.
- Ability to work without aid at each step of construction.
- Use of originality in details.
- Ability to use thimble correctly.
- Efficiency in motions.

Teacher

School

Approved:

W. J. Welles

Date May 1941

