A STUDY OF THE RELATIONSHIPS BETWEEN KNOWLEDGE OF CHILD GROWTH PRINCIPLES AND THEIR APPLICATIONS IN MULTIPLE - GRADE TEACHING IN CERTAIN COUNTIES IN NEBRASKA, SOUTH DAKOTA, AND MICHIGAN

> Thesis for the Degree of Ed. D. MICHIGAN STATE UNIVERSITY Lula R. Way 1958



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A STUDY OF THE RELATIONSHIPS BETWEEN KNOWLEDGE OF CHILD GROWTH PRINCIPLES AND THEIR APPLICATIONS IN MULTIPLE-GRADE TEACHING IN CERTAIN COUNTLES IN NEBRASKA, SOUTH DAKOTA, AND MICHIGAN

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Бу

LULA R. WAY

### A THESIS

Submitted to the School for Advanced Graduate Studies of Michigan State University of Agriculture and Applied Science in partial fulfillment of the requirements for the degree of

DOCTOR OF EDUCATION

School of Education

#### ABSTRACT

### A STUDY OF THE RELATIONSHIPS BETWEEN KNOWLEDGE OF CHILD GROWTH PRINCIPLES AND THEIR APPLICATIONS IN MULTIPLE-GRADE TEACHING IN CERTAIN COUNTIES IN NEBRASKA, SOUTH DAKOTA, AND MICHIGAN

This is a study of relationships between what teachers know in principle and what they do in practice concerning child growth. The findings of the study are bases upon: (1) a personal questionnaire used to determine the status of their training (2) a continuum type of reconstruction of their classroom techniques used to determine their application of child growth principles.

Random sampling of teacher's names were drawn from county rosters in twelve north east Nebraska counties, two south east South Dakota counties and two Michigan counties.

By mass tabulation a measure of how well or how poorly the child growth principles were being applied in the teaching of reading, arithmetic, social studies and natural science was obtained. By individual tabulations it was possible to obtain a judgement of how well any one teacher was applying what she knew of child growth principles in any one or all four areas represented on the continuum. Thus the study had both cross-sectional and longitudinal aspects.

The major relationships indicated by the study were:

(1) reading is being taught with little application of current child growth principles and with but little evidence of progression in method

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(2) there is more agreement of principle and practice with regard to arithmetic

(3) natural science shows evidence of the impact of newer concepts of teaching methods and better application of current child growth principles

(4) social science shows the greatest evidence of the application of current child growth principles and the use of good method

(5) supervision on a county wide basis has not been a determinite factor in the application or the non-application of child growth principles

(6) the correlation of the age of the teacher and her ability to teach was negative

(7) the correlation of the teacher's recency of training and her ability to teach was negative

(8) the correlation of the number of college hours held by the teacher and her ability to teach was negative

(9) the correlation of the extent of help the teacher felt her college classes had given her and her ability to teach was positive and significantly so at the five percent level

(10) the correlation of the years of teaching experience to the ability to teach was positive but only slightly so

(11) if one were desirous of picking a good teacher in all four areas of teaching he need only to know how the teacher teaches arithmetic to know how effectively current child growth principles were carried out in other areas of the curriculum

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#### ACKNOWLEDGMENTS

The author wishes to acknowledge the helpful assistance given her by the county superintendents of schools involved in this study. Without their cooperation the high percentage of returns on the questionnaire and the continuum would not have been possible. She also wishes to acknowledge the assistance given by Mrs. E. M. Wooldridge in matters mathematical. To the graduate committee, Dr. Junge, Dr. Clark, Dr. Harper, Dr. Deitze and particularily to Dr. DeLong who gave much time during the initial stages of the study and to Dr. C. V. Millard who gave helpful suggestions throughout the study, the author is deeply indebted.

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#### CHAPTER I

### INTRODUCTION

Like the cold relentless cut of a glacier American educational practices have ground their way through the lives of the youth of this land. Every child is touched, for compulsion is behind the educational process. The school is one of the places where the educative process takes place, the teacher is one of the tools through which this process is brought to bear on the life of the child. Those engaged in teacher training like to think that efforts to teach 'about children' and 'methodology', to influence learning in the areas about which the child will be inquiring, are good experiences for the teacher in training and will in turn, cast their influence upon the child, who, day by day comes to the American classroom.

Within a few short years, as time is calculated by eras, we, as a nation of adults and children have grown from agrarian to urban. Even the home of the agrarian is, for the most part, urbanized. His community is no longer a closely knit well defined area and his school, generally speaking, is not likely to be the same as it was thirty years ago. Yet there are some things about agrarian life that cannot be set down as synonymous to its urban counterpart. The facts that

land surrounds his abode, that unoccupied distances lie between him, his neighbor, and his school connote among other things an educative process not wholly interchangeable with "urban education."

Urban educational problems have been studied, and plans have been made to meet the immediate and long range needs of its patrons. Rural education has not had an equal share of attention. Like the proverbial "Topsy," rural education in the main has "just come up," with little attention focused apon it.

### The Problem

Statement of the problem. Since the rural home and school are becoming less and less different from the urban home and school, most educators seem to think that rural education holds no distinctive principles. When the school, whether urban or rural, is the center of the problems, the child is of major concern. He is the common element. Within the realm of generalities, the similarities of the rural and the urban schools are many. There are, however, certain areas where differences must be recognized to meet child growth concepts in multi-grade situations. It is the author's sus tained contention that these very differences become the basic framework for maintaining satisfactory learning situations in multiple-grade classrooms.

This thesis purports: (1) to determine the existence or absence of child growth and development principles in

classes taught in certain institutions where training for multiple-grade teaching is now available; (2) to describe the methodology used by those who are now teaching in multiplegrade situations then relate this methodology to good or poor attributes of teaching; and (3) to study the relationships which may exist between child growth knowledge and methodology as used in the classroom situations.

Region covered by the study. This study is concerned with certain areas within three states where multiple-grade classrooms are in operation, namely Nebraska, where such schools are common indeed, two South Dakota counties which border Nebraska, and two selected counties in Michigan.

Limitations of the study. All the measuring instruments used in this study have been calibrated to reveal conditions and practices as they actually exist, not as they are ideally recommended.

<u>Need for the study</u>. Institutions providing training toward meeting teacher certification requirements must train both the teacher who expects to teach in graded and those who expect to teach in ungraded schools. The general tendency toward larger school units<sup>1</sup> and the phenomenal growth of urban systems<sup>2</sup> have furnished the teacher training institutions with the needed impetus to center on and to emphasize in, its

<sup>2</sup><u>Ibid</u>., p. 46, 48.

<sup>&</sup>lt;sup>1</sup>Biennial Survey of Education in the United States, Chapter 2, 1946-48, <u>Statistics of State School Systems</u>, Federal Security Agency, Office of Education, Mashington, D. C.: United States Printing Office, 1950, p. 12.

teacher training program, a curricular approach which best fits the needs of the urban teacher.

Good educational practice set forth in texts studied by the teacher in training and the pupils in the classroom have come more and more to illustrate concepts and methods in single grade settings. This augmented and strengthened the training for the urban teacher. As a consequence, meager and rather apologetic efforts have been made to demonstrate, describe, or determine how these techniques would succeed in multiple-grade setting. Only Wofford<sup>3</sup> and Bowen<sup>4</sup> have published books considered to be primarily designed for the multiple-grade setting.

Many college catalogues list textbooks in rural education, but the two noted above are the only ones which bear late enough copyright dates to be currently useful. Yet in the nation thirty-two out of every one hundred children are considered rural. In the three state area where this study was made the per cent is even higher: Nebraska has fortynine per cent; South Dakota, forty-seven per cent; and Michigan, thirty-nine per cent.<sup>5</sup>

The children represented by these stated percentages will either add to or subtract from the economy of each state.

<sup>3</sup>Kate Wofford, <u>Teaching</u> in <u>Small Schools</u>, New York: The Macmillan Co., 1946.

4Genevieve Bowen, Living and Learning in a Small Rural School, New York: The Macmillan Co., 1944.

5Biennial Survey, op. cit., p. 63.

These children deserve "equal educational opportunities" as set forth in the <u>Charter of Education for Rural Children.</u><sup>6</sup> Consequently we must still train teachers to teach in multiple-grade situations. The better this training is, the better will be our citizenry and the better will be the use to which our tax dollar can be put.

There are two possible reasons for the sparcity of text materials on rural education: (1) the field of rural education has ceased to make evident to textbook publishers the need for such publications; or (2) the field has at its command adequate teacher training materials. Concerning the first point, there are 93,000 one and two-teacher schools in operation and two and one quarter million children attending these schools.<sup>7</sup> These statistics would have had considerable significance for the textbook publisher had they felt the demand from the training institutions for such materials. Concerning the second point, H. A. Dawson<sup>8</sup> in a speech entitled "Trouble at the Crossroads," states that the economic and professional status of the rural teacher is more insecure than any other class of teacher in America. This statement seems to have escaped public and educational reaction.

There is, then, a need to determine the present status of rural education, particularly as it is practiced in rela-

<sup>6</sup>National Education Association, The White House Conference of Rural Education, Washington, D.C.: Department of Rural Education of the N. E. A., 1944, p. 14-15.

7Biennial Survey, op. cit., Table 63.

<sup>8</sup>National Education Association, <u>op</u>. <u>cit</u>., p. 37.

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tion to what the rural teacher knows about child growth and what she does with this knowledge to induce learning.

In the process of attacking this problem, the writer felt that one major aspect of the study related to both child growth principles and methodology needed early attention: how do we account for the way teachers teach as they do? Is it because of (1) the type of supervision, (2) the courses they take in college, (3) the recency of their training, (4) the texts they used in college?

A survey of the literature, as well as interviews with the people who teach child growth, was summarized to establish the concepts of child growth.<sup>9</sup> Next, the twenty-seven superintendents of county school systems in northeast Nebraska were contacted and by interview were asked the questions upon which the Kreitlow<sup>10</sup> Rural Education Philosophy Scale was structured.<sup>11</sup> The findings were catagorized to ascertain the philosophical leaning which their supervision would quite surely take.<sup>12</sup>

Armed with these two results, the writer then began the task of establishing the parameters of the study itself.<sup>13</sup> In the establishment of this process rural teachers in twelve

9Appendix F.

10Burton Kreitlow, Rural Education: <u>Community Back-</u><u>grounds</u>, New York: Harper brothers, 1954, p. 23.

11Appendix A, Kreitlow Scale.

12 Appendix A, Findings and Catagorizations.

13Appendix B, Combined Questionnaire and Continuum.

Nebraska counties, and two South Dakota counties, and in two Michigan counties were asked to recount their training on a provided questionnaire.<sup>14</sup> By responding to a judgment type continuum, based on textbook philosophies previously mentioned, a measure of their application of their child growth principles was secured.<sup>15</sup> It then became possible to determine relationships between (1) recency of training and the principles used, (2) the amount of training end the principles used, (3) the age of the teacher and the principles used, (4) the teacher's attitude toward her child growth training and the principles used in the classroom.

### Definition Of Terms

Most of the terms used in this study are common to researchers. The terms are defined as a limiting factor rather than a clarification factor.

<u>Rural</u>. Rural is a term indicating those people who live in centers of population of less than two thousand five hundred or in the open country.

<u>Eultiple-grade</u>. The term multiple-grade relates to a situation in which more than one grade taught by one teacher occupies one room for the major part of their school day.

<u>Continuum</u>. A continuum is an instrument used to obtain judgments ranging from the least to the highest degree or from the earliest to the latest application of the factor involved.

14Appendix 5, Questionnaire, Part I.

15Appendix B, Part II, Judgment Type Continuum.

The Instruments Used In The Collection Of Data

The interview. In a personal interview the superintendents within the area served by Nebraska State Teachers College at Wayne were asked to respond to the Kreitlow Educational Philosophy Scale. The results of this interview were analyzed, and a composite rating assigned to each county involved in the study. The rating so obtained was used as an index or measure of the supervisory factor and provided an over-all comparative basis.

The questionnaire. A linear scale type of questionnaire with responses from least to greatest degree was used. This simple type of response was used, mainly, for the convenience of the teachers, since checking in a given catagory seemed more easily done than giving numerical or individualized types of answers. This type of scale also simplified the classification of the results. The parameters of the questionnaire included: (1) age of the teacher, (2) recency of training, (3) years of teaching experience, (4) amount of college training, (5) judgment of child growth training, (6) marital status, (7) sex, (8) kind of college attended, and (9) titles of college courses which dealt with child growth.

The continuum. Four areas of the curriculum -- reading, arithmetic, social science, and natural science -- were selected in order to give an adequate cross sectional insight into the curricular practices used by each teacher. The concepts gained from the information in archive records of each of the four state teacher colleges in Nebraska were so ar-

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ranged that each of the four areas had six successively modern implications.<sup>16</sup> These were presented to each teacher in an unchronological order.<sup>17</sup> Each teacher was to arrange the items on a provided ladder in such a way as to show the item considered the least acceptable way to teach attached to the lowest rung of the ladder and the item considered the most acceptable attached to the highest rung of the ladder with the other four responses placed in rank order up the ladder between the two extremes. Since there were four areas of the curriculum included in the study and each continuum had six catagories, the mathematical permutations of responses ranging from a totally correct arrangement in each area to a complete reversal of responses would be 720.<sup>18</sup> By mass tabulation a measure of how well or how poorly child growth principles were being applied in each area was obtained. By individual tabulation it was possible to obtain a judgment of how well one teacher was aware of child growth principles in any one or in all four greas represented on the continuum.<sup>19</sup> Thus the study has both longitudinal and cross sectional aspects.

16Appendix A, (Blue, reading; yellow, arithmetic; pink, social science; green, natural science). 17Appendix A, (envelope). 18Appendix E. 19Appendix D.

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### Treatment Of The Data

Responses given to the interviews with those in supervisory capacities over rural schools affected by the study were totaled and made into a composite rating.<sup>20</sup> Later in the study, this factor was used to weigh the administrative philosophy as an element in the degree of teachers' awareness of child growth principles. The responses to each item on the questionnaire sent to the rural teachers in the twelvecounty area in Kebraska, the two counties in South Dakota and Hichigan, respectively, were coded by color and placed on a single line tabulation beside judgment continuum numerical responses. This made it possible to see each teacher's total set of responses at a single glance and also placed them in columns so the type totals could be easily determined.

Because of the multiplicity of possible responses to the judgment continuum it was felt best to limit the number of teachers from whom responses would be obtained to 900:<sup>21</sup> eight hundred in Nebraska, and fifty each in South Dakota and Michigan. The last one hundred responses were to be used as a comparison factor.

### 20<sub>Table</sub> 6, p. 47.

<sup>21</sup>Nine hundred responses, represents the total number of teachers in the sixteen counties studied, and is 900 by chance only.

### CHAPTER II

EARLY AND MODERIE CONCEPTS IN THE MULTI-GRADE IDEA

Writings, prolific in both words and number of titles, have been set forth as studies in rural education. Almost all the studies doal with some separate factor, significant to be sure, but hardly exhaustive or comprehensive in the field of actual practice in multiple-grade settings.

One pertinent study was made by Kate Wofford in 1930. She used courses of studies and government documents as her criteria for determining how rural schools were taught. This means that her data was not obtained from the teacher herself. Her findings hinged upon certification and the physical plant found in operation in rural areas.<sup>22</sup> It is, however, the only study, to this researcher's knowledge, which gives an adequate status picture of multiple-grade teaching. We are now two wars, a depression, and a period of prosperity away from such a study.

Since this study involves the multiple-grade setting in Nebraska's open country schools which are both multiple-graded and rural, the terms rural and multiple-grade are used interchangeably.

<sup>22</sup>Kate V. Wofford, "An History of the Status and Training of Elementary Rural Teachers of the United States, 1860-1930." Unpublished Doctoral Thesis, Columbia University, New York, 1934, p. 134.

<u>Nethod</u>. That method does not exist apart from the teacher is implied in Wofford's statement:

Such an imperfect state of margins and deficiencies of sound educational practice could hardly be otherwise where the schools are kept from four to six months of the year by boys and girls from sixteen to twenty years of age, themselves poorly educated. . . The chief difficulties apparent in American rural schools are the deficiencies in the qualifications of the teachers and the temporary employment of them.<sup>23</sup>

The teacher determined the method. It is a common saying that teachers teach as they were taught, rather than the way they were told to teach in their teacher training classes. This statement seems to be borne out in Kennedy's study of the Los Angeles County teachers:

The factor of training correlates highly with the preferences expressed toward progressive methodology used in the classroom as did the factor of job satisfaction as reflected in the attitude of the teacher.24

The youthful and the inexperienced seem attracted to the Nebraska rural school in situations where supervision is a very pertinent obstacle. Kennedy noted this in stating: "Unfortunately, where the least supervision is available, the most seems to be needed."<sup>25</sup> As late as the middle 1940's the text-book recitation method was the typical method of instruction in small schools. Rufi concluded that ninety-five per cent of all the material covered in small Pennsylvania schools

23Kate Wofford, op. cit., p. 136.

24Stella A. Kennedy, "A Survey of School Teachers Attitudes Toward Problems in Education," Unpublished Doctoral Thesis, The University of Southern California, Los Angeles, 1954, p. 263.

25<u>Ibid.</u>, p. 142.

included in his investigation was found between the covers of the single text used. In no instance did the teacher require, expect, or even urge the brighter pupils to do work not assigned to the entire group.<sup>26</sup>

Indicative of the relationship of size of enrollment in a school to progressive practice is the fact that as enrollment decreases, so does the amount of experimentation with new techniques of teaching.<sup>27</sup>

The issuance of sub-standard certificates in the midwestern states were still in effect in 1955 long after the 'emergencies', for which they were devised, ceased to exist. Multiple-grades are very much in existence and the young, less-mature teacher fills the ranks in this type of classroom. Lack of training, experience, and maturity are factors contributing to the manner in which child growth aspects are treated in rural areas.

In the light of educational comment becoming increasingly evident as cited in the <u>National Education Journal</u>, especially, there is a movement to use the ungraded schoolroom procedures in unit teaching in such systems as Cleveland, Ohio, and Appleton, Wisconsin. Here, as elsewhere, the distinguishing characteristic of the success of such a plan is the good teacher. If she knows and is able to apply good child growth

26 John Rufi, "The Small School," Contribution to Education Number 426, Teachers College Columbia University, 1936, 1. 145.

27E. N. Ferriss, "Curriculum Characteristics and Method Trends in Rural School," National Educational Addresses, 1943, P. 448.

and development principles, it is logical to infer that her worth in terms of desirable child behavior would become greater if she is with the same group of children over a longer period of time.<sup>28,29</sup> This would held true in the case of the good rural teacher who stays in the same school over a period of years.

Revolutionary changes have not been made, but here and there, good teaching is in effect in rural settings. Rarely, however, do the results of such teaching get into print.

Teaching standards. One of the goals among publishers of educational periodicals is the desirability of publishing new methods being tried with successful results. The dearth of material of like nature done in rural settings must, then, be related to the nature of the multiple-grade setting in a rural school. If, by census definition, we view the first rural schools we are, indeed, looking at America's first schools. Early historical records of the schools indicate that many people who taught the colonial schools did so either as a last resort or as indentured servants who were forced to do so.<sup>30</sup> These masters were known for their drill-master, disciplinery approach to learning. In the chronicles of the Massachusetts Bay Colony Colonial Assembly Statutes, this can

28<sub>Marion B. Tucker,</sub> "The Shoe Didn't Fit," <u>National Edu-</u> <u>cation Association Journal</u>, Volume 45, Number 3, March, 1956, Pp. 159-161.

29 Ibid., Volume 14, Number 5, May, 1955, pp. 18-20.

York: 30Richard G. Boone, Education in the United States, New Appleton-Century-Crofts, 1903, p. 64-65.

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#### be read:

It being the chief project of that old deluder Satan to keep men from the knowledge of the Scriptures, as, in former times, keeping them in an unknown tongue, so as in these later days, by persuading from the use of tongues, so that at last the true sense and meaning of the original might be clouded and corrupted by false glosses of deceivers; and to the end that learning may not be buried in the graves of our forefathers, in church commonwealth, the Lord assisting us, it is therefore ordered by this court and authority thereof that every township within the jurisdiction after the Lord hath increased them to number them fifty householders, shall then forthwith appoint one within their number to teach all such children as shall resort to him, to read and write.31

Further in the lengthy statute, provisions were made for grammar schools as preparation for the university. But here is the inception of the first schools. Early methods were forthcoming to expedite rural teaching.

As migration seduced people west, the next great pronouncement for rural education came in the document known as "The Ordinance of 1707" wherein is the much quoted statement: "•••• schools and means of education shall forever be encouraged."<sup>32</sup> Upon this statement lay the basis for the early surveying of the townships, for putting townships into sections, and for the establishing of certain uniform sections of territory as lands from which revenue was to be set aside for the financing of schools. This was done, in many instances, long before settlers moved near such surveyed places.

31Elwood Cubberley, Public Education in the United States, Boston: Houghton Mifflin Company, 1919, p. 76.

32 Theodore C. Pease, ed., The Laws of the Northwest Territory, Springfield, Illinois: The Trustees of the Illinois State Historical Society, 1925, p. 526.

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For the most part, placement of rural schools at two mile intersections, tefore the population of the area was plentiful enough to warrant such boundaries, was a deterring factor to the development of modern community school. It mattered little that another school might be just across the meadow; for if the property were not in the district, the child could not go there to school, except as the law arranged for him to do so. If the narrowing meridian lines made some district less than two full square miles, then the district was considered a 'fractional' one.<sup>33</sup> Nevertheless such an arrangement did set the boundaries for tax support.

Few studies, however, indicate the exact nature of the rural school. Certainly one point was clear: the early American school had a purpose, and the citizens of the district knew the purpose. From the colonial school to the school of the mid-1800's, religious instruction was uppermost in the minds of the parents who sent their children to the district school.

Knowledge of the way rural schools began and of how they Erew clarifies our conception of what they are now. Kreitlow states:

From the early colonial days to the present, better rural schools and better rural teachers have come to be of great concern to the profession. A look at history shows what great strides have been made: yet a look at the rural school of today often points to even greater strides needed.34

33Dorothy Nyberg, <u>A Short History of Wayne County</u>, <u>Wayne</u>, <u>Nebraska</u>: The Wayne Herald, 1930, pp. 46-52.

34Kreitlow, op. cit., p. 116.

Wofford placed the important challenge succinctly, however, in saying:

> Rural education tends toward a national pattern of consolidation. Administrators, in general, urge the consolidation of schools as the answer to the national rural school problem. To researchers in education this seems too easy a solution to so large a problem. . . . Rural life is characterized by diversity rather than homogeneity, and the fitting of the many patterns of rural life to one type of teaching unit seems questionable.35

Within American culture, movement from rural to urban settings has been rapid since the advent of the phenomenon called industrialization. At its inception, there was an impetus for major school administrators to lessen the emphasis on rural education as such. As early as 1906, Kern expressed anxiety for the existence of rural schools.<sup>36</sup> The thought has been in the expressed words of school-minded people that rural education will soon have little place on the American scene. This has not been substantiated in actual practice. In the 1920's, educators were saying that the farmer must demand a comprehensive educational program in his schools. It was also understood that the reason why he was the last of the three major groups to do so might be related to "his lower position in ability to support such a program."<sup>37</sup>

Thus in 1921, the Department of Rural Education of the National Education Association declared, in its adopted plat-

35wofford, op. cit., r. 54.

360. J. Kern, Among Country Schools, New York: 1966, P. 27-28.

37<sub>Kreitlow</sub>, op. cit., p. 61.

#### form that:

. . . the standard of the educational product is the same country and city; the general aims of public education are the same everywhere; and since the school is the educational institution supplementing the natural education provided by home experiences, there is need for developing integrated rural content units to meet the common needs.<sup>28</sup>

At the time of the writing of the thirtieth yearbook of the National Society for the Study of Education, rural education was still a pressing issue. Eminent authors of that day were still endeavoring to find solutions to the rural education problems. The location of the school was at stake:

> Hore that one-half the rural schools are located on unimproved roads. Thirty-seven per cent of the teachers are teaching in schools located on roads that are impassable during the winter months. Rearly all school buildings are off the highway, or are reached with difficulty.29

In 1931, fifty-six per cent of the nation's children were classified as rural, and fifty-one per cent of the nation's teachers were teaching in one room and in two room schools.<sup>40</sup>

Sometime between 1931 and the writing of the 1945 Yearbook of Rural Education, however, the attitude toward the rural school changed. The literature of the day was permeated with statements concerning cultural and sociological common elements. Dawson, in the overview of the current status, states.

 $38_{\rm Editorial}$  in News and Notes of dural Education, 1:1921, pp. 41-42.

39National Society for the Study of Education, <u>The Status</u> of <u>Rural Education</u>, Thirtieth Yearbook, Bloomington, Illinois: Fublic School Publishing Co., 1931, p. 60.

40<u>Ibid</u>., p. 61.
We may usefully segregate the problems of rural and city people for the purpose of studying ther. We must not forget, however, that all Americans are interested in the same objectives. Conflicts between rural and urban groups are bound to arise, but the solution to the issues will be more readily found if each group considers the stake of the other.<sup>44</sup>

The cry of the educator, "Let's keep them on the farm," of the early 1930's was fast changing; and it must continue to change in such a manner that those who will contribute to building a strong, virile, rural community will remain in the rural areas, and those who seem best fitted to go to the cities will do so.42

This new term which involves getting the greatest return in job satisfaction within the culture is termed "rurber."<sup>43</sup> Thus have the runtlings of trying to spew the term, rursl education, from the mind of the 1905 educator, come in 1055, to an eactive attempt not to see the problem as an either-or proposition. These who study the question see the cultural change as a continuing process, with which we must constantly deal in order to make effective changes in our way of life to patch the occasion. It is certain in the minds of the sociolegist and the educators that the rural school systems are being built in an era of rapid social change. Kreitlow states:

The demands the people make upon their schools have Changed. The significance of rural society has shifted, and the very make-up of the rural community is in the State of flux. School people face a real dilemma --

41 Howard A. Dawson, "Organization and Financing of Schools," Yearbook of the Department of Rural Education of the National Education Association, Washington, D. C., Dept. of Rural Ed., 1945, p. 120.

42 National Society for the Study of Education, op. cit., p. 83.

430. T. Duncan, "The Rurban Spoch," <u>National Education</u> Journal, Volume 45, Number 2, February, 1956, p. 98. whether to do what they know they should do or do what they know is casiect to do. If it seems probable that aducational needs can be not by patching up the present system, then this should be done. If, on the other hand, a real charge is precessary, then that too, should be done.44

<u>Rumblings of new ideas</u>. Only now is the need for a good educational program in rural America being discovered; and students of education know that when compared to the urban educational program, rural education is in its infancy. Rural leaders realize the effectiveness of Reeves' statement: "The small district system contributes to inequality of educational opportunities, or to an inequitable distribution of the tax burden, or to both."<sup>45</sup>

As knowledge filters in to the individual farmer, through the mass media of radio and television, he is being brought to realize that small schools can be good schools, but that they will be expensive.

The curriculum of the sarly rural schools was mainly a matter of incalculating knowledge of enough reading to read the Scriptures, enough ciphering to be sure of not being cheated at the store and enough writing to write a letter and sign one's name. This type of curriculum persisted well into the late 1800's.

Curricular trends of the early 1900's include more and more training in art, music, and physical aducation. By 1920, Fullerton's rural choir techniques were widely accepted, and

WKreitlow, op. cit., p. 119.

45 Floyd W. Reeves, editor, Education for Rural America, Chicago: University of Chicago Fress, 1945, p. 35.

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some rural choruses were faining national attention.<sup>4,6</sup> Rural field days were being promoted and art was a regular Friday afternoon part of the rural school curriculum. Some truly modern rural schools of this time were loading out with community-action programs in agriculture and conservation. The chief exponent of such a program was Cornell University's publication, "The Rural School Leaflet,"<sup>47</sup> which to this time is considered an outstanding publication in the field of rural education. Out of such a setting grew Anna Comstock's book, <u>Handbook of Nature Study.<sup>46</sup></u> After several revisions, it is still considered a leading book in nature appreciation.

In 1925, the chief difference between rural and urban curricula was thought to be one of environment, 49 and state departments of public instruction-were placing in the hands of their teachers newly-organized, subject-matter centered, factual guides, called courses of study.<sup>50</sup> Hardly had such courses been printed and sent to county superintendents, be-

46C. A. Fullerton, <u>A One Book Course in Elementary Music</u>, Cedar Falls: Fullerton and Gray, 1929, Preface iv.

47cornell Rural School Leaflet, Bimonthly publication of Cornell University, Ithaca, New York.

48<sub>Anna B. Comstock, Handbook of Nature Study</sub>, Ithaca, New York: Cornell University Fress, (5th Edition, 1947).

49Department of Superintendents of National Education Association, <u>Possible Narration in Curricula to Meet Community</u> and <u>Individual Needs</u>, Third Yearbook prepared by the Department of Superintendents, Washington, D. C.: National Education Association, 1925, p. 25.

50<sub>National Society for the Study of Education, op. cit.,</sub> p. 118. :.

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fore sharp criticism from Dunn,<sup>51</sup> Wofford,<sup>52</sup> Southall,<sup>53</sup> and Frost,<sup>54</sup> all active in rural toocher training became evident in print. The concensus of opinions was: On the whole, the states are not squarely facing their problems concerning the curriculum in their rural schools; they are organizing their courses of study primarily for city educational conditions, and leaving the brunt of the burden of adjustment for the rural teacher to carry. The assumptions appear to be that the adjustments required are unimportant and readily made. If this be true, they argued, it is suggested that the curriculum be organized very specifically for eight-month, one-teacher schools, and let the better staffed city schools with ade pute supervision make the minor adjustments necessary.

The rural curriculum todey is better than the printed form for, here and there, in both one-teacher and consolidated schools, usually in well-supervised areas, unit work of very high type is being done.<sup>55</sup> Today the emphasis is shifting from deeply rooted subject-matter teaching to integrated unit-

<sup>52</sup>Kate Wofford, "Socialization of the School Curriculua," <u>Op</u>. <u>eit.</u>, p. 124.

<sup>51</sup> Fannie Dunn, "Natural Sequence in Curriculum Practice," <u>Newer Types of Instruction in Small Rural Schools</u>, 1935 Yearbook of Rural Education, Machington, D. C.: National Education Association, 1935, p. 74.

<sup>53&</sup>lt;sub>Maycie Southall,</sub> "Contributions to Individual Instruction," op. cit., p. 110.

<sup>54</sup>Norman Frost, "Newer Types of Instruction in Rural Areas," <u>op. cit.</u>, p. 56.

Areas," Educational Leadership, VIII (January, 1951), pp. 249-

type teaching; for example, not prography per se, nor history per se, but rather, unified social science concepts. Subjects are thought of as means, not ends. The primary purpose of the school is considered to be one of essisting in the development of the abilities of each individual, not merely one of giving him information. "We seek then, to use all kinds of significant material."<sup>56</sup> "Our task is to elucate, not the average child, but every child."<sup>57</sup>

It was evident that the community school had, by 1930, become a part of the rural educators! thinking. Dunn, at the Whitehouse Conference, was suggesting:

Perhaps we could spend the money it would cost to no more helpful and than to employ a few able people to every state to develop materials especially designed to that state's rural conditions and then coordinate the efforts of these specialists under some type of national leadership.<sup>50</sup>

Again community centered ideas permeated Dunn's concept of rural curricular problems. She states: "The center of the education of the educational effort is not the community, not the child, but the child growing up in the community."<sup>59</sup>

Purposes for school attainments have no meaning except as they affect the peoples thoughts and actions. The modern decade counterpart of such a statement is evidenced in Butter-

57 Dunn and dverett, loc. cit.

58<sub>Notional Education Association, op. cit., p. 18.</sub>

59 National Education Association, op. cit., p. 63.

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<sup>56</sup>Fannie Dunn and Marcia Everett, Four Years in a Country School, New York: Teachers College Columbia University, 1926, P. 19.

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worth's writing: "It is sound pedagogy to base all instruction on the experiences and the environment of the youth being instructed."<sup>60</sup>

It is of interest to note that the progression from alphabet learning, highly teacher-disciplined rural schools to the self-disciplined self-determined goals of the modern rural school is not a different type of progression from our urban curricular progress. The difference lies in the timing or the lag in educational practice. Dunn noted it when she said: "... Thus does practice lag behind principle."<sup>61</sup>

Strange indeed that the voice of Kern in 1906, saying: "My educational decalogue for school officers and teachers may be reproduced in one simple commandment, namely, 'Thou shalt enrich the lives and broaden the views of the country child',"<sup>62</sup> should sound so much like the statement made by the foremost speaker for rural education in the United States today, H. A. Dawson, who, in 1955 state:

One of the clear objectives of rural education is to organize curriculum materials around the idea of child growth and development rather than through the offering of a group of more or less unrelated subjects.<sup>63</sup>

60 Julian E. Butterworth and Howard A. Dawson, <u>The Modern</u> <u>Rural School</u>, New York: McGraw Hill Book Company, 1952, P. 109.

61<sub>National Society for the Study of Education, op. cit., p. ll2.</sub>

62<sub>Kern, op. cit., p. 98.</sub>

63Howard A. Dawson, "Organization and Financing Rural Schools," <u>Rural Education Today</u>, 1955 Yearbook of Department of Rural Education, National Education Association, Washington, D. C.: National Education Association, 1955, p. 120.

If one asks why are curricular changes so slow to evolve in rural areas, one must consider not only the culture to which the rural school is acclimated, but one must consider the way the rural teacher training has evolved. The oldest system of formal teacher training in the United States is associated with the preparation of rural teachers. This the first refers to normal training in high school, which was established in New York in 1834. Gradually, this system has dwindled in use, until at the time this study was begun, there remained only one state that offered such training, namely, Nebraska. Its use, however inadequate it may have been, did give a basis for professional training and some actual. though limited. contact with an actual classroom. Early in its use normal training in rural education became a flourishing field. By 1931, eighty-five per cent of all the State Normal Schools had offerings in the specific area of rural teaching.

By the mid-1940's, there seemed to prevail in the thinking of those who planned college courses a trend toward eliminating special rural courses since, "With the advent of consolidation, special rural teacher training will be unnecessary. \*64 In this period there did follow substantial gains in the consolidation efforts in the very states that had furnished such vigorous leadership within the field. These

<sup>64</sup>United States Advisory Commission on Education, <u>The</u> <u>Federal Government and Education</u>, Washington, D. C.: Government Printing Office, 1945, p. 15.

leaders saw the fruition of their labor in the ever increasing services being offered to rural youth. The South turned. generally, to the county unit system which meant limited, but certainly modern thinking toward rural teaching. The Dakota's and Nebraska were left with a great number of unconsolidated In 1950 Nebraska had over 6,000 independent rural schools. districts employing nearly 6,000 teachers. Within this number were thirty-two schools each hiring a teacher to teach a single child. During the 1954 movement toward reorganization. consolidation of districts showed considerable increase.65 Yet anyone who rides across the sand hills and the prairies will note at once that though other states who came under the provisions of the North West Ordinance might easily move toward complete reorganization, the Dakota's and Nebraska have two forbidding elements -- distance and climate. These elements were then, are now, and will be for years to come the very factors which make the rural school a common sight on the prairies. These schools will need teachers and adequate curricular material, because children are there to teach and who would deny that they, like all children, have that right to a good education.

<u>Child growth and development impacts</u>. As an overview, child development can be viewed from three vantage points: the medical or genetic emphasis, the cultural emphasis, and

<sup>65</sup>Governor's Lay Conference on Education, Kearney, Nebraska, Mimeographed report, 1954.

the organismic or developmental emphasis. Gesell,<sup>66</sup> Hurlock,<sup>67</sup> and Garrison<sup>68</sup> present child development basically as a physical phenomenom, wherein the child develops as he does because he is genetically so constituted. Bayley,<sup>69</sup> Bossard,<sup>70</sup> Martin,<sup>71</sup> Havighurst,<sup>72</sup> agree that the culture into which the child is born and raised makes the child grow as he does. He becomes a developmental plant rooted in the pot of culture. Millard,<sup>73</sup> Courtis,<sup>74</sup> DeLong,<sup>75</sup> Olson,<sup>76</sup> and Shuttleworth,<sup>77</sup>

66Arnold Gesell, <u>Studies in Child Development</u>, New York: Harper, 1948.

67 Elizabeth Hurlock, Child Growth and Development, New York: McGraw Hill, 1956.

68Karl Garrison, Growth and Development, New York: Longmans Green, 1952.

69Nancy Bayley, "Prediction of Adult Height from Present Skeletal Height," Journal of Pediatrics, 28:49-64, January-June, 1946.

70 James Bossard, The Sociology of Child Development, New York: Harper, 1954.

71 Everett D. Martin, <u>Psychology</u> and <u>Its</u> <u>Use</u>, Chicago: American Library Association, 1926.

72Robert Havighurst, <u>Human</u> <u>Development</u> and <u>Education</u>, New York: Longmans Green, 1953.

73Cecil V. Millard, <u>Child Growth and Development</u>, Boston: Heath, 1951.

74Stuart A. Courtis, <u>Why Children Succeed</u>, Detroit: Fiesems Brothers, 1925.

75Arthur DeLong, "Understanding the Growing Child," College of Education Quarterly, Volume 2, Number 1, January, 1956

York: <sup>76</sup>Willard Olson, <u>Growth of the Child as a Whole</u>, New McGraw Hill Co., 1943.

77W. A. Shuttleworth, <u>The Adolescent Period</u>, Evanston, Illinois: Monograph of Society Child Development Research, Volume II, Number 5. along with their research workers, Nally,<sup>78</sup> Kowitz,<sup>79</sup> Udoh,<sup>80</sup> Rusch,<sup>81</sup> find that growth is cyclic and predictive within the cycle. They relate growth to a biological formula, which is mathematical in its precision, and known to the scientific world as the Gompertz Curve or the Courtis Adaptation of the Gompretz Function. The cycle is described as a growth curve which can only be disrupted by physical, mental, cultural, or emotional deprivation.

The first two groups study children in groups or in sets of them. They record what they see or get by way of mathematical data and then use standard mathematical methods to determine the significance of their findings. Their studies are mainly of the cross-sectional type.

The latter group uses another approach known as the longitudinal method of study. For example: Olson takes successive measurements such as height, weight, and scores on achievement tests, converts them to a growth age, and then plots chronological age against derived growth age. This plotted line is

78 Thomas Nally, "The Relationships Between Achieved Growth in Height and the Beginning of Growth in Reading," Doctoral Thesis, Michigan State College of Agriculture and Applied Science, 1953.

79Gerald Kowitz, "An Exploration into the Relationship of Physical Growth Pattern and Classroom Behavior," In the Elementary School, Doctoral Thesis, Michigan State College of Agriculture and Applied Science, 1954.

80Benson Udoh, "The Relationship of Menarche to Achieved Growth in Height," Doctoral Thesis, Michigan State College of Agriculture and Applied Science, 1955.

81 Ruben Rusch, "The Relationships Between Growth in Height and Growth in Weight," Doctoral Thesis, Michigan State College of Agriculture and Applied Science, 1954.



helpful in judging whether or not the child is growing in an integrated fashion. Integrated growth, whether above or below the theoretical average, should give parents no cause for alarm; but irregular growth should cause immediate concern until the cause for the irregularity is found and righted.<sup>82</sup> This is but one aspect of the organismic approach to child study.

Courtis, Millard, and DeLong along with their researchers, Nelly, Kowitz, Udoh, Rusch, use the adapted Gompretz formula Y = k (rt + i). The sign (=) means that the values are expressed in isochrons. r refers to rate of growth, t to time, and i to incipiency or the beginning of that particular growth, and k to the maximum or achievement magnitude at the end of the particular growth. By plotting successive points on isochronic paper a growth pattern or cycle can be established, even predicted, if three accurate measurements within the cycle are known.<sup>83</sup>

Through all the studies, no matter to which school of thought they belong, there is a general agreement that child study of child growth and development is dealing with the whole child. This is a fitting culmination to Fannie Dunn's statement: "... not the community, not the child, but the child growing up in the community."<sup>84</sup>

82<sub>Olson, op. cit., p. 182.</sub> 83<sub>Courtis, op. cit., p. 17.</sub> 84<sub>National Education Association, op. cit., p. 63.</sub> Within the framework of the multiple-grade classroom lies an opportunity not found in single grade settings; here effective longitudinal studies of children can be made. The opportunity for extensive work in the area of child growth and development can become the rural teachers rare and exciting adventure.

All of these studies, with the exception of Wofford's have as the thesis of their existence, the teacher, the school itself, or the method, with little or no thought of seeing relationships between method and growth principles. Wofford's study was completed in 1930. It would seem fitting to bring the study up to date with the hope of being able to discern pertinent findings, upon which foundation we may produce materials with which the rural teacher may expedite good teaching practices in the multiple-grade classroom.

# CHAPTER III

## TECHNIQUES AND INSTRUMENTS FOR DETERMINING THE IMPACT OF CHILD GROWTH AND DEVELOPMENT ON METHOD

### The Sample

This study is based upon data obtained directly from teachers in rural schools in Nebraska, South Dakota, and Michigan. The Nebraska counties were selected from the ones served by the Nebraska State Teachers College at Wayne. The South Dakota counties bordering Nebraska have certification laws similar to Nebraska's. Michigan, in many respects, has higher certification requirements, but it has somehow kept more than its share of rural, multiple-graded schools.

Nebraska rural schools contain too many teachers to include all in the study. The sample is limited, therefore, to teachers in the schools within the service area of the college at Wayne. The area is well defined by agreement among the four state teachers colleges in Nebraska.

In order to assure a random sampling each of the counties within the service area was assigned a number. Each number <sup>was</sup> placed on a sphere, tumbled in a cage, and twelve numbers <sup>were</sup> drawn. These became the sample for the Nebraska portion of the study. The total number of teachers in the twelve-<sup>county</sup> area, or the sample, was 907; while the total number



in the whole service area was 1,827. It seems likely that the Nebraska sample would be adequate and representative.

In order to give a regional significance and to provide a means of comparison to the study, two South Dakota counties, which border the area of the Nebraska sample and have similar certification and school types, and two Michigan counties, which have no city of more than forty thousand were chosen to complete the sample. The out-of-state counties with large metropolitan areas were withdrawn from the total, because the service area of Wayne college includes no such cities, (Appendix C).

#### The Interviews

Two types of interviews were necessary to fulfill the requirements of this study. The preliminary interview was the personal-contact type, structured to determine the basic philos ophy of those who act as supervisory heads of schools in the twelve county area known as the Wayne State Teachers College Service Area.

The second interview ascertaining a judgment from the supervisor concerning the manner in which child growth principles were applied in the teaching of reading, arithmetic, social science, and natural science. The latter was carried out by asking teachers to respond to the Kreitlow scale (see Appendix A), and is called, in the study, the <u>supervisory</u> factor.

#### The Questionnaire

IIypotheses concerning the study involve knowledge of much: personal data about the teachers. A trial questionnaire was developed in certain education classes where teaching experience was a prerequisite to enrollment (see Appendix B). It was found that if only the questions that related directly to the study were placed in the questionnaire, the teachers who would be filling in the information would more than likely see the relationships of one response to another. This it was felt, would not be conducive to accurate answers to other questions which would be asked of them. It seemed advisable, therefore, to include logical but quite irrelevant questions as a means of deterring them from seeing direct relationships.

When the linear type parameters of the actual questionnaire were finally determined, the items included the following: (1) school location by county and state and assigned code number; (2) teacher age and range (twenty-one to over sixty); (3) marital status; (4) sex; (5) teaching experience and range (from less than one year to more than twenty-five years); (6) the amount of college training; (7) type of college attended; (8) recency of training; (9) courses dealing with child growth; and (10) extent of felt help, given by these courses.

Although some of the items are quite self explanatory, the rationale back of the questions selected is important to the understanding of the study.

Regarding age. The youngest teachers would be "normal"

trainees just out of high school, and the oldest ones would not yet have reached retirement age, which in Nebraska is sixty-five years.

<u>Regarding marital status</u>. These responses were not important to the study but were placed there to lessen the likelihood detection of relationships.

<u>Regarding sex</u>. These responses were not considered in the  $\leq$  tudy, since it was known before the study began that ninety-eight per cont of the Nebraska rural teachers are female.

Regarding teaching experience. The experience line was divided into six component parts. The first division was set at "less than one year," since some teachers would not yet have had one full year of experience. The second division was sot at "two to four years," since any teacher who wiskes to keep a Nebraska certificate in force aust begin the process of renewal before the expiration of the initial certificate." The third division, "five to seven years," would include those whose teaching was satisfying enough to warrant two years of college in preparation for the type of certificate, termed a "first grade elementary." The "eight to fourteen division" would include those whose teaching had been satisfactory and whose summers were spent working toward a degree. The "fourteen to twenty-four" division would likely represent those teachiers who liked rural teaching well enough to make it a

the "Is valid for two years, but requires qualification by end of two renewals or four years of experience.



profession and were nearly finished with a degree. The last division, "more than twenty-five years," would include those teachers holding a permanent certificate (no longer issued) or a degree, and those teachers recently returned to the profession and licensed to teach on a temporary basis with a sub-standard certificate.

Regarding the amount of college training. Possible cate, ories were established to correspond to current certification requirements within the state. The first catagory was set to read "none" which would include teachers with normal training in high school, thus with no college training whatever - The second division was set at less than "thirty hours" in order to include the holders of the twelve hour certificate and those with a first renewal. The third division was designed to include those with more than one year but less than two years (these people would not yet be qualified to teach in city school systems). The fourth catagory was established to indicate those who contemplated staying in a rural school even after two years of college had been completed and a certificate awarded which would allow them to teach in a town or city system. The final catagory was designed to include those who hold degrees but are "rural minded" enough to remain in rural schools.

Regarding kind of college attended. The question concerning the type of college attended was listed merely to break the continuity of the two previous items with the one following. They have no bearing on the study.

<u>Reparding the recency of training</u>. Categories provided were geared to certification and amount of college training incurred. Renewal of the teaching certificate always involves professional education credit. The attainment of a degree does not require education credit but may include credit in advanced courses toward the preparation for some other profession.

Regarding course titles. The catalogs of the Nebraska State Freacher Colleges were used to ascertain the course titles involved in certification requirements at five year intervals from 1920 to 1955. It was felt that not all teachers would have had their training in Nebraska schools. Consequently, at the right side of the line space was left where the course title which described their situation could be entered.

Regarding extent of help. If the study were to reveal an attitude toward training in rural education, then some measure relating to their reactions to this training program. Would be necessary. Placed as it was, near the end of the questionnaire it was felt that the teacher might be willing to react frankly to the kind of training she had undergone.

The finished questionnaire is to be found in Appendix B.

# The Continuum

The rationale connected with the continuum type measuring instrument is rather new. The first educationally oriented continua were used in the late 1930's, when educators realized



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that in educational questions, there are degrees of agreement, instead of definite "yes" and "no" answers to questions.<sup>85</sup> Upon e-amining the response to a continuum type of measure, one may obtain a measure of belief concerning the topic at hand.<sup>86</sup>

Educators would not deny the values of growth studies; yet textbooks in child growth, more especially the early ones. are predicated upon empirical as well as upon research find-As the principles are drawn out of books, back through ings the years, it is more and more evident that much which is stated for truth is the result of armchair philosophy. This is the way of all science, however. There was alchemy before chemistry; there was astrology before astronomy. In setting forth the propression on a child growth continuum the same levels of thinkinf are present. Unless the person who uses a continuum measure sees this progression and places his concepts in progressive steps from earlier to later implementations of these concepts, as related to child growth and development, the continuum loses its significance. For example: consider the approach to the psychology of learning. The entire school idea is predicated upon training, training the mind and knowledge. For over a thousand years Plate's method of learning influenced the padagogues. He stated: "... there is no need for analysis or generalization of experi-

<sup>85</sup> Nathanial Cantor, <u>Dynamics of Learning</u>, Buffalo, Now York: Foster and Stewart Publishing Corporation, 1946. 86 <u>Ibid</u>.



ences"<sup>67</sup> and "Emotions have little to do with significant learnings."<sup>88</sup> These statements more or less undergirded the philescophy of the school curriculum until the early 1930's. His teachings and the teachings of Aristotle were remote from every day experience; they were concerned with the search for universal ideals. Comenius, in the early 1600's, led a revolt segainst the Platonic tradition. He relied upon the senses as the source of impressions from which knowledge could be constructed. He did actual observation of children and developed the first picture text for children, thus beginging the trend for realism in education.

John Locke's view of growth and development could be stated: at birth the mind is much like a 'tabula rose' -a clean slate; experience is the stylus that develops the 'faculties' of the mind. Educators who took the teachings of John Locke literally believed that good teaching could overcome almost any handicap.

Rousseau's belief was that man comes good from the hand of God and is made bad only by contact with society around him. His teachings caused such furore in his time that he was barmed from teaching. With his teachings came one more concept in child growth -- humane treatment of children. He showed the need for understanding the child, and told the leaders that there were no really scientific studies of

87 Flato (Francis Cornford translation) The Republic of Flato, New York: The Oxford Press, 1915, p. 246. 88 Plato, <u>ibid.</u>, p. 248.



childrer.

Fostalozzi, the experimentalist, urged teachers to proceed from the concrete to the abstract, from the simple to the complex, and from the near to the far. To D. A. Sheldon, who brought object teaching to the normal school in Cowego, New York, we owe the importation of this one of Pestalozzi's teaching aids to our schools in the United States.

The first World Mar announced a new ora, however, in the progression up the continuum. The great emphasis toward the scientific became the crucial issue in child study. Test, standardize the result, and test again became the cry of  $\mathbf{e} \mathbf{v} \Rightarrow \mathbf{r}_{\mathcal{T}}$  school man. Figeophole each facet of learning and then take an average reading. Thus did educations make a blasph-mous mistake in their realm of influence. Since means of communication became none universal and language barriers became less effective, the scientific study of children swept the country in far fewer years and influenced more educators than did any former set of principles. The works of Comenius, Locke, and Pestalozzi lay in abeyance to this new scientific crutor:, called standardized testing. Unsure educators who needed a mathematically correct answer to their critic, the public. strengthened their own morale. Mass education was upon them and with mass education came mass testing, mass tabulation of results, and even mass teaching geared to the average, which, in reality doesn't exist. So Johnnie became <sup>a spot</sup> on the class profile sheet and a sed adminture of sense and nonsense in the educational realm.

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At this point of development of dilld provide Worfford completed her study in 1930. It is at this point that this atudy begins its search for the step by step development of the principles which have guided child growth and development since that time. It should be made clear, that as a measuring isst rument for this study, this researcher is interested in using the progression principles as they apply to pertheast Nebraska, a conservative section of the United States -rather than leas conservative communities such as Oswego, New York, or San Diego, California.

The four state teachers colleges in the state of Nebraska are controlled by a common board. Thus it would be expected that their courses, by title at least, would be very similar. In determining the child growth and development sequence for the continuum the author consulted the catalogs of each of the colleges to determine (1) the coincidence of the offerings and (2) the number of hours of college credit offered in each of the courses. These findings are shown on the continuum in Table I on the following page.

With the course titles in hand the needed step for procuring book titles was attained. Again records were sought. From the grade records which each instructor was required to turn in at the end of each marking period, the names of the texts used were taken. These titles with the names of the courses in which they were used are shown in Table II on page 42. Since the texts were chosen for five years of use and since the study involves teachers who could have had their

# TABIE I

PROGRESSION OF COURSE TITLES OF THE INEBRASKA STATE TLACHERS COLLEGES FROM 1930 to 1955

$\gamma$	Year	Credit Hours	Course Titles	Colleges Where Taught*
	1955	2 3 3 2 2	Introduction to Education Human Development and Behavior I Human Development and Behavior II Elementary School Curriculum Foundations of Education	1,2,3,4 1,2,3,4 1,2,3,4 1,2,3,4 1,2,4 3
	1950	2 32 2 2 2 2	Introduction to Education Educational Psychology Personality Development Philosophy of Education Guidance in the Elementary School Principles of Elementary Education	1,2,3,4 1,2,3,4 1,3 1,2 2,4 3,4
	1945	2 3 2 2	Introduction to Education Educational Psychology Personality Development and Adjustment Philosophy of Education	1,2,3,4 1,2,3,4 1,3 1,3,4
	1940	2 3 3 2	Introduction to Education The ory of Education Educational Psychology Philosophy of Education	1,2,3,4 1 1,2,3 1,2,4
	1935	<b>3</b> 2 3 3 5	Introduction to Teaching Child Study Theory of Education I Theory of Education II Psychology	1,2,3,4 2,4 1,3 1 1,2,3,4
	1930	5 4 5 3	General Psychology Pedagogy <b>Theory of</b> Education Classroom Management	1,2,3,4 4 1 2,3

This continuum should be read from the bottom to the top.

\*One indicates Wayne State; two indicates Kearney State; three indicates Chadron State; four indicates Peru State.

# TABLE II

PROGRESSION OF TEXT TITLES OF THE IJEBRASKA STATE TEACHERS COLLEGES FROM 1930 to 1955

$\sim$	rear		
	1955	Intro. to Ed Lee, <u>An Intro. to Ed. in Modern America</u> Human Dev. & Feh. II - Ellis, <u>Educational Psychology</u> Ele. Sch. Curriculum - No text Rural Ed Dunn, <u>The Child in His Rural Environment</u>	
	1950	Intro. to Ed Reeder, <u>A First Course in Education</u> Ed. Psych Gates & Gersild, <u>Educational Psychology</u> Personality Dev Langer, <u>Psychology &amp; Human Living</u> Philosophy of Ed Kilpatrick, <u>Philosophy of Education</u> Prin. of Ele. Ed Rugg & Shoemaker, <u>The Child</u> <u>Centered School</u> Rural Ed Wofford, <u>Teaching in a Small School</u>	
	1945	Intro. to Ed Reeder, <u>A First Course in Education</u> Ed. Psych Thorndike and Jates, <u>Educational Psychology</u> Personality Dev. and Adj Ryan, <u>Mental Health thru Ed.</u> Philosophy of Ed Kilpatrick, <u>Foundation of Methods</u> Rural Ed Slacks, <u>The Rural Teachers Work</u>	•
	1940	Intro. to Ed Reeder, <u>A</u> <u>First Course in Education</u> Theory of Ed Thorndike & Gates, <u>Le. Prin. of Ed.</u> Psychology - Gruenberg, <u>Readings in Child Study</u> Philosophy of Ed Kilpatrick, <u>Foundation of Methods</u> Rural Ed Ritter & Wilmarth, <u>Rural Teaching</u>	
	1935	Intro. to Teaching - Butterweek & Seegers, <u>An Orien-</u> <u>tation Course in Education</u> Theory of Teaching I - Thorndike & Gates, <u>Ele. Prin.</u> <u>of Education</u> Theory of Teaching II - Second one-half of book Psychology - Norsworthy & Whitley, <u>General Psychology</u>	4
	1930	Rural Ed Ritter & Wilmarth, <u>Rural Teaching</u> General Psych Pillsbury & Angell, <u>General Psychology</u> Theory of Ed Gates, Psychology for Students of Ed.	

This continuum should be read from the bottom to the top.

initial training twenty-five years ago, the first rung of the textbook continuum must of necessity list those texts used in 1930.

In general these texts set forth statements describing
ways of dealing with children. While it may have been true that some of the statements set down as fuiding principles could not have been substantiated in the light of research, the teacher-in-training was urged to use these principles in actual teaching.

The books were carefully read by this author; the principle was recorded, catagorized, and from the final grouping of like principles, reworded to incorporate a basic idea. From these statements, called principles in the study, the steps on the child prowth and development continuum were established. These are shown in Table III.

After determining the guiding principles of child growth, and having set them forth on the continuum (Table III), the next task was one of choosing a principle which correlated closely with one in each of the four subject matter areas used in the study. The texts used in teacher-training classes for the years beginning with 1930 were ascertained from the archive records, and a point of method was established in the texts to fit each of the rungs of the continuum (Table III). These Points were arranged to coincide with the child growth and development concept of the period in question, and are illustrative of concepts set forth in Table III.\*

"They are not to be considered a complete appraisal of the total subject matter area. These concepts were arranged on cards; after consultation with a member of the staff who teaches in the area in question, a progression of concepts was agreed upon, which met the textbook concepts, the teacher explanation, and the child growth principles in effect at the stated five year intervals. These continus for the fields of reading, arithmetic, social science, and natural science follow in Tables IV, V, VI, and VII on pages 45, 46, 47, and 48.

# TABLE III

## GENERAL GROWTH PRINCIPLES

~	Year						
	1955	The child's growth is innate. His growth is cyclic.					
		Only severe deprivation can alter the direction of					
		growth. The teacher is a guide who knows from the					
		child's record when to teach and when to let the child					
		absorb learnings.					
	1950	The child responds to teaching as a whole. Thus the					
		teacher arranges his learning situations so that the					
	child may find he is responding to teaching						
		h is faculties his head, his actions, and his					
		feelings.					
	1945	The child is an individual with whom the teacher mus					
		Ceal as an individual. His behavior is partly innate					
		lout his environment determines directional growth.					
	<b>1</b> 940	The child is a type personality whose behavior is					
		determined by the impact of external forces on his					
		life.					
	1935	The child is considered a young adult to be taught by					
		experimental learnings and activities which will					
		assist him to live in his generation adequately.					
ļ	1930	The child is a young adult to be drilled and taught					
L		to live in the world of the present generation.					
	Mot a						

This continuum should be read from the bottom to the top.



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#### TABLE IV

#### READING CONTINUUM

Make evailable to the child who is questioning a wide range of materials. With guidance from his teacher he could select those reading materials which he could use to answer his

questions.

Reading can best be attained by assisting the child to find for himself satisfactory solutions to his problems and questions through the printed page under a teacher's guidance. The child is helped by an understanding teacher by providing instruments of learning so that he can comfortably master questions asked by both pupils and teacher.

Reading: can best be accomplished by first seeing to it that the child is both physiologically and psychologically ready and then presenting a systematic series of graded material. The teacher should present to a homogenous group of children a systematic sequence of close graded material.

Reading is response to symbols. It is best attained by presenting a limited repertoire of words. Repeat the presentation until the response becomes automatic. By adding words regularly the child gains reading ability.

This continuum should be read from the bottom to the top.

# TABLE V

# ARITHMITIC CONFINUUM

Use $of$ manipulative devices by the children to enable them
to discover mathematical concepts and generalizations. The
teacher is a guide.
The teacher prepares and uses games and devices to enliver
the $n \Rightarrow cessary$ repetition essential to mastery of arithmetic
processes.
The teacher states the rule, then she demonstrates why the
rule is true. By drill, the children establish the rule in
their minds.
The teacher assigns a definitive process with adequate drill
exercises. She checks the papers and reassigns extra drill
to those who do not master the work.
The teacher states the rule, the children memorize the rule
and do exercises to fix the process in their minds.
The teacher assigns from a text. The pupils read the
explanations and then do the problems.
This continuus should be need from the better to the ton

This continuum should be read from the bottom to the top.

# TABLE VI

# SOCIAL SCIENCE CONTINUUM

The social sciences are made meaningful, by grouping what
the child investigates around the house, the neighborhood,
the community, his state, his nation, and finally the world.
Social sciences exist only as an integrated group of know-
ledges and skills which the child attains through partici-
pation in social acus in a social sobting.
The social sciences are meaningful only then geographical
concepts are studied first. Then historical events are
studied. Lestly jovernment is studied from a well organized
tor".
The social sciences should be taught in specific sequence
so that the child first understands single civilizations,
then more complex ones, i.e. he woold study Eskines before
he studies the U.S.A.
The social sciences should be divided into classes in
Nistory, geography, and civics. Teach specific knowledge
a' each grade level.
Social science means momorization of Cache and concepts for
future use as a citizen.

This continuum should be read from the bottom to the top.

# TABLE VII

# NATURAL SCIENCE CONTINUUM

<ul> <li>helps then to find material to ensure their question. The children carry out cap riments or observations then they draw at conclusion.</li> <li>The which is a conclusion.</li> <li>The which is a class into working groups to read and experiment to find the answer to the questions the teacher easts.</li> <li>Science knowledges must be incidental learnings; therefore science is brought into other subject matter ereas and is not a separate course.</li> <li>The transfer has great and activities which interest the children in learning to recognize cortain phononers in nature.</li> <li>The science class consists of vocabulary words which the children and monorize with the meanings. These youds are kept in the order in a notabook.</li> <li>The tractorier is a readiry learner.</li> </ul>	The children discuss a phenomona of nature. The teacher
children carry out experiments or observations then they dree a conclusion. The eshildren and the totaler discuss a phenomene. The backbor divides the class into working groups to read and experiment to find the answers to the questions the teacher asks. Science knowledges must be incidental hermings; therefore science is brought into other subject matter areas and is abt a separate course. The totacher has genes and activities which interest the clince in learning to recognize centrin phenomene in nature . The science class consists of vocabilary words which the children emist memorize with the meanings. These words are kept in rest order in a notebook. The total order is a pending base.	helps them to find material to onswer their question. The
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	assignment as a reading leason.

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The metruring instrument, called a judgment continuum, was printed, black on white, with the six responses in each of four colors.<sup>89</sup> Each color denoted an area; blue denoted reading; yellow, arithmetic; pink, social science; and green. natural science. After these responses were printed each set was separated so that each response was made on a separate slip. These slips were mixed, placed loose inside the blank continuum ladder form, and mailed to the teachers. The teachers, in turn, read the directions, and arranged the guared responses in their order of significance as each response took its relative place on the continuum according to agreement with their application of child growth principles . This procedure required placing the least acceptable Posponse at the bottom of the ladder and the most acceptable response at the top with the other responses in their respective rank order between the two extremes.

While it is true that the teacher may not have practiced in the manner in which she answered the continuum, it seemed the most effective way to determine the application of child growth principles she used without actually visiting the classion. Nine hundred classroom visitations were quite beyond the scope of this study.

in Appendix B.

#### CHAPTER IV

## RESULTS OF THE STUDY

## Organization Of Data

With the assistance of county superintendents in urging their teachers to return the questionnaire and the continua when completed, 767 of the 900 sent were returned. This represented, approximately, an eighty-five per cent return.

The raw data tabulations were made by code number on large twenty-two inch by thirty-six inch sheets of paper in such a way that a total picture of one teacher's responses could be seen by following a single column across the page. From this ungrouped data a composite of the material with its weighted values was made. The composite of this data, recorded by counties appears in Appendix D.

Since this study postulated on page ten that relationships existed between (1) ability to teach and age; (2) ability to teach and the amount of college training; (3) ability to teach and recency of training; and (4) ability to teach and extent of help which they felt their courses had given them, the first statistical arrangement concerns these relationships. Wofford's study indicated that the relationships of good educational practices in vogue in 1930 had little impact upon rural areas. Her expressed feeling was that 1930 was the year

of beginning and that rural education would move progressively forward at a faster rate than had been evidenced in her study. This statement is on trial in this study.

## Presentation Of Results

The histograms of how well the subject matter areas are being taught in accord with child growth principles can stand alone in their interpretation which in general states that reading is most commonly taught by a method prescribed 20 years ago. This can be seen by the high scores occuring at the 504 to 456 level, while it is also evident that at the 720 we ighted score which would indicate good use of child growth principles, there are very few who use such principles. The rest of the statistics, however, bear no meaningful relationships to the ability to teach unless the responses made on the teaching continuum are placed beside the responses to the questionnaire which concerned the personal data 🖕 The weighted score was ascertained for this purpose. This data from which Figure 5 was built appears in Appendix Ε. If the response was in accord with modern educational practice as set forth in textbooks used in 1950 through 1955, then the response would be 1, 2, 3, 4, 5, and 6. That arrangement would represent good basic philosophy and an awareness of the progression of methods in the area in which she rates as 1, 2, 3, 4, 5, and 6 in correct order. Should this teacher know the most acceptable, but not be aware of past methods, the weighted score should still be high but not

rated as perfect. In order to equate the weighted scores, a place value was set upon any response out of order. The possible permutations of responses from the totally correct order 1, 2, 3, 4, 5, 6 to a complete reversal of responses 6, 5, 4, 3, 2, 1 number 720. This tally was made from the original continuum responses and appears in the appendix as Appendix E. From this tally one can obtain a measure of how effectively the child growth concepts might permeate the effective teaching in each of the four areas on the continuum. This is shown graphically in the histograms labeled Figures 1, 2, 3, and 4, respectively. Figure 5 shows a composite picture of the totals in the four areas. An adequate interpretation of these histograms is found on the page with the figure.

# Problem 1: Measure of use of child development principles

The relationships existing between effective use of child growth and development principles as evidenced in effective teaching in the four areas are shown in the line graph in Figure 6, pages 58 and 59. Each subject matter area is designated by a specific, keyed set of marks. The range from good to poor along the horizontal axis and the frequencies from few to many along the vertical axis can be read from the Sreph and a comparative picture can be discovered at a glance.

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Figure 1. A Histogram Snowing the Weighted Score in Ability to Choose and Flace Correct Responses on the Reading Contunuum. N=748 Cases.



Scores

The weighted score is indicative of the teachers' foundation in teaching in this subject matter area. It is a more inclusive measure than the ability to choose and place the correct acceptable practice in the first place on the continuum; i.e. placing responses one through six in 1, 3, 2, 5, 4, 6 order would be a better choice than 1, 6, 5, 4, 3, 2.

Figure 2. A Histogram Showing the Weighted Score in Ability to Choose and Place Correct Responses on the Arithmetic Continuum. N=748 Cases.



The weighted score is indicative of the teachers' foundation in teaching in this subject matter area. It is a more inclusive measure than the ability to choose and place the correct acceptable practice in the first place on the continuum; i.e. placing responses one through six in 1, 3, 2, 5, 4, 6 order would be a better choice than 1, 6, 5, 4, 3, 2.

Figure 3. A Histogram Showing the Weighted Score in Ability to Choose and Place Correct Responses on the Natural Science Continuum.  $N \approx 748$  Cases.



Scores

The weighted score is indicative of the teachers' foundation in teaching in this subject matter area. It is a more inclusive measure than the ability to choose and place the correct acceptable practice in the first place on the continuum; i.e. placing responses one through six in 1, 3, 2, 5, 4, 6 order would be a better choice than 1, 6, 5, 4, 3, 2.

Figure 4. A Histogram Showing the Weighted Score in Ability to Choose and Place Correct Responses on the Social Science Continuum. N = 748 Cases.



Scores

The weighted score is indicative of the teachers' foundation in teaching in this subject matter area. It is a more inclusive measure than the ability to choose and place the correct acceptable practice in the first place on the continuum; i.e. placing responses one through six in 1, 3, 2, 5, 4, 6 order would be a better choice than 1, 6, 5, 4, 3, 2.



Scores

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Problem 2: Measure of use of supervisor as indices

of use of child growth principles The Kreitlow Rural Education Philosophy Scale was administered to the county superintendents of schools of the twelve counties used on the study. The scale contained a set of questions, which when analyzed, give an indication of philosophy in one of the three following catagories: (1) academic, (2) progressive, or (3) community center.

The subject matter totals are the accumulation of the total initial number given on the respective continua. This information is given in Table VIII, page 61. For example: in Antelope county there were sixty-two teachers who ran up a total initial response in reading of 230 points, in arithmetic 134 points, in social science 86 points, and in natural science 109 points. Since in the continuum responses a 'one' is significantly a better choice than, say a 'four', it would follow that the better a person teaches and uses good child development concepts within an area, the lower will be the score . This total was run for each county on the study, as well as for each area on the continua. In the column headed 'total: the scores from all four teaching areas were added and this number entered. With all these figures one still has no way of knowing whether teachers in Antelope, for example, teach as well or better than the teachers in another county since there were not the same number of teachers in each county. To arrive at a comparable figure the average was computed and entered in a column labeled: Average

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TABLE

THE DISTRIBUTION BY COUNTY OF THE CONFOSITE TEACHING SCORE IN FOUR AREAS OF TEACHING JUXTAPOSED TO THE SUPERVISORY FACTOR

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Composite Rating. The supervisory factor determined for the Kreitlow scale was entered in Column 3, and once for Nebraska, once for South Dakota, and once for Michigan in Column 14. With the addition of this factor one can judge whether the type of supervision in some way affects the teacher responses.

This value will be used at a later point in the study for comparison purposes.

A copy of the Kreitlow Scale appears in Appendix A. Problem 3: Correlation of the ability to incorporate child growth principles within subject matter areas as given in point 3 page 3 and the questionnaire with various personal data items.

The Pearson method for obtaining a correlation measure was applied to the ability to place correct responses on the proper rung of the continuum with each of the following: (1) the age of the teacher, (2) the extent of help received from college courses dealing with child growth, (3) the recency of training, (4) the number of college hours accumulated, (5) the number of years of teaching experience.

With regard to age the correlation was found to be  $-.016 \pm .02$ .

With regard to extent of help the correlation was  $.21 \pm .02$ .

With regard to number of college hours the correlation was  $-.03 \pm .02$ .

With regard to recency of training the correlation was  $-.007 \pm .02$ .

With regard to the number of years of teaching experience the **correlation** was  $.00\frac{1}{4} \pm .02$ .

It should be noted that this set of correlations was run using the initial response to each of the four areas of the curriculum as the item correlated with the ability to place correct responses on the proper rung of the continuum.

A sub problem of problem 3: The effectiveness of the

teacher in more than one area of the, continua.

In order to determine whether or not a teacher who was aware of acceptable child growth principles in the teaching of, say, arithmetic, was also aware of these same principles in the teaching of another subject for which continuum responses were given, again the Pearson method for determining the correlations was applied. It should be noted here, that the weighted score was used in determining this set of correlations. The results were as follows:

The correlation of being aware of child growth principles in the teaching of reading and in arithmetic,  $.29 \pm .04$ ; of reading and social science,  $.166 \pm .024$ ; of reading and natural science,  $.17 \pm .02$ . The correlation between arithmetic and natural science,  $.23 \pm .02$ ; of arithmetic and social science,  $.20 \pm .02$ . The correlation of social science and natural science was  $.157 \pm .02$ .

A sub problem of problem 3: Determining the

progression on the continuum.

The teachers who identified good teaching practices in the four continuum areas may not have known the progression related to the time certain techniques were the accepted practice. It was, therefore, apparent that another distinctly set of comparisons might throw added light on the original tenets of the study. Table IX, on the following page, shows the number of teachers who were able to locate from the six possible responses in reading, for example, the best choice as ascertained from the texts examined and place that choice at the top of the continuum, indicating a knowledge of the best response of the place to put it in relation to the others.

The next group was able to refine their thinking somewhat and was able to pick practices rated as first and second and to place them on rungs 'one' and 'two' respectively. The next group could pick responses 'one', 'two' and 'three', and place them in the correct places on the continuum.

There were not enough totally poor choosers to get much to measure in the making of very poor choices. Even though the number was small, the figures are included for inspection.

A sub problem of problem 3: Goodness of choice.

The ability to make good choices, which is stated in Table IX, can be seen more directly in the rectangular graphs, Figures 7, 8, 9, and 10 respectively. These graphs show that the per cent in the larger square also includes the two lesser

## TABLE IX

PLACEMENT OF FIRST, FIRST AND SECOND, AND FIRST, SECOND, AND THIRD CHOICES ON THE CONTINUUM IN THE AREAS OF READING, ARITHMETIC, SOCIAL SCIENCE, AND NATURAL SCIENCE

	Read- ing	Arithme- tic	Social Science	Natural Science	Total
Total whose first choice was one	184	388	601	4 <b>7</b> 9	1,687
rotal whose first and second choices were one and two	57	86	229	367	762
Total whose first, second, and third choices were one, two, and three	23	45	109	113	295
Total whose first choice were six	35	4	3	О	42
Total whose first and second choices were six and five	2	0	ò	0	2
Total whose first, second, and third choices were six, five, and four	0	0	0	0	0

percents. The smaller the area covered by the least per cent, the fewer the number of teachers who see progression in method by being able to identify and to locate the top three rungs of the continuum correctly. The larger the area the better the application of child growth principles. Figure 7 A Rectangular Graph Showing a Three Way Relationship in Ability to Place Responses One, Two and Three; One and Two; and One Respectively in Correct Order on the Reading Continuum. N = 748 Cases.



- 21..6% Represents 184 Teachers Whose First Choice in Placement of the First Response Was One one the Continuum.
  - 7.6% Represents 57 Teachers Whose First and Second Choice in Placement of the First Two Responses Was One and Two on the Continuum.
  - 3.1% Represents 23 Teachers Whose First, Second, and Third Choice in Placement of the First Three Responses Was One, Two, and Three.

Figure 8 A Rectangular Graph Showing a Three Way Relationship in Ability to Place Responses One, Two, and Three; One and Two; and One Respectively in Corpect Order on the Artithmetic Continuum. N = 746 Cases



- 51.9% Represents 388 Teachers Whose First Choice in Placement of the First Response Was One one the Continuum.
  - 7.6% Represents 86 Teachers Whose First and Second Choice in Placement of the First Two Responses Was One and Two on the Continuum.
  - 6.0% Represents 45 Teachers Whose First, Second, and Thrird Choice in Placement of the First Three Responses Was One, Two, and Three Respectively.

Figure 9 A Rectangular Graph Showing a Three Way Relationship in Ability to Place Responses One, Two, and Three; One and Two; and One Respectively in Correct Order on the Social Science Continuum. N = 748 Cases.



- 80.3% Represents 601 Teachers Whose First Choice in Placement of the First Response Was One on the Continuum.
  - 30.6% Represents 229 Teachers Whose First and Second Choice in Placement of the First Two Responses Was One and Two on the Continuum.
  - 14.6% Represents 109 Teachers Whose First, Second, and Third Choice in Placement of the First Three Responses Was One, Two and Three Respectively.

A Rectangular Graph Showing a Three Way Relationship in Ability to Place Responses One, Two, and Three; One and Two; and One Respectively in Correct Order on the Natural Science Continuum. N = 748 Cases

Figure 10



- 64.0% Represents 479 Teachers Whose First Choice in Placement of the First Response Was One on the Continuum.
- 49.1% Represents 367 Teachers Whose First and Second Choice in Placement of the First Two Responses Was One and Two on the Continuum.
  - 14.6% Represents 113 Teachers Whose First, Second, and Third Choice in Placement of the First Three Responses Was One, Two, and Three Respectively.

Problem 4: Single indices from the questionnaire related to those who identified applications of good child growth principles in each of the areas.

If a teacher could get choices one and two on their proper rungs of the continuum, she would be considered, in the judgment of the author, a good teacher showing adequate handling of child growth principles. In order to relate the ones who were able to do this to the personal data side of the questionnaire, the component bar graph was used to show these relationships. Figures 11, 12, 13, 14, 15, and 16 on pages 71-72, show these relationships in the area of reading. Figures 17 through 22 on pages 73-74 show the same type of relationships for arithmetic. Figures 23 through 28 on pages 75-76 show the relationships for social science. Figures 29 through 34 on pages 77-78 show the same for natural science. The whole bar in each case represents the total number in the entire study who could get the first two responses correctly placed. The circle graphs in Figures 35-39 compiled from the materials in Tables X-XIV give an overall picture of the entire sample as related to the personal data factors, namely experience, age, extent of felt help, number of college hours, and recency of training. By observing the greater percentages one can generalize concerning the 748 teachers.

Component bar Graphs Showing Percentages of-Total Cases Who Identified Good Teaching

## FIGURE 11

A € e of the Cases Who Identified Good Teaching Practices in Reading (Choices One and Two in Correct Order). N = 57. One 3/16 Inch Square = Two Teachers.

Under 21 21-24 (56,1 25 o**ver 60** 44 (26.3%) 59 (1.8%) 7%

FIGURE C

Years of Teaching Experience of the Cases Who Identified Good Teaching Practices in Reading (Choices One and Two in Correct Order). N = 57. One 3/16 Inch Square = Two Teachers.

Less Than 1 year (56.1%) over 25 2-4 yrs. (22.8%) 35%)

FIGURE 7

Amount of College Training in Semester Hours of Cases Who Identified Good Teaching Practices in Reading (Choices One and Two in Correct Order), N = 57. One 3/16 Inch Square = Two Teachers.

60-90hz Less Than 30 hrs. 31-99 (15.82 (19.3%

Component Ear Graph Showing Percentages of Total Cases Who Identified Good Teaching, con't.

#### FIGURE 1

Recency of Training of Cases Who Identified Good Teaching Practices in Reading (Choices One and Two in Correct Order). N = 57. One 3/16 Inch Square = Two Teachers.



FIGURE 1

Course Titles Which Dealt with Growth Concepts in Teaching Reading. 80 Titles Given by 57 Teachers. One 3/16 Inch Square = The Titles

10000	Educational Psychology (20%)	child Shud	Principles of Teaching (28.8%)	Child Growth Develop- ment (28.8%)	Rural School Procedures (16.2%)
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FIGURE 15

Extent of Help in Teaching Which the College Courses Taken Were Considered to Have Given. N = 57. One 3/16 Inch Square = Two Teachers.



Component Bar Graph Showing Percentages of Total Cases Who Identified Good Teaching, con't.

## FIGURE 1 '

Age of the Cases Who Identified Good Teaching Practices in Arithmetic (Choices One and Two in Correct Order).

N = 86. One 3/16 Inch Square = Three Teachers.



## FIGURE 1

Years of Teaching Experience of the Cases who Identified Good Teaching Practices in Arithmetic (Choices One and Two in Correct Order). N = 86. One 3/16 Inch Square = Three Teachers.

Less than lyr. (74.4%)

FIGURE 1

Amount of College Training in Semester Hours of Cases Who Identified Good Teaching Practices in Arithmetic (Choices One and Two in Correct Order). N = 86. One 3/16 Inch Square = Three Teachers.

None	Less than 3	Ohrs. 31-59 hi	s. GO-90hrs.
(81%)	(53.5%)	(16.3%)	(20.9%) (1.2%)
<u>ک</u>

Line.

Component Bar Graph Showing Percentages of Total Cases Who Identified Good Teaching, con't.

### FIGURE 20

Recency of Training of Cases Who Identified Good Teaching Practices in Arithmetic (Choices One and Two in Correct Order). N = 86. One 3/16 Square = Three Teachers.

Last year (62.8%) 2.4 yrs age 5-7 yrs oge 7 (17.4%) (14.0%) 4.2%



Course Titles Which Dealt with Handling Children in Teaching Arithmetic (Choices One and Two in Correct Order). 104 Titles Given by 86 Teachers. One 3/16 Square = Three Titles.



Extent of Help in Teaching Arithmetic Which the College Courses Were Considered to Have Given. N = 86. One 3/16 Square = Three Teachers.



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Component Bar Graph Showing Percentages of Total Cases Who Identified Good Teaching, con't.

### FIGURE 27

Age of the Cases Who Identified Good Teaching Practices in Social Sciences (Choices Une and Two in Correct Urder).

N = 229. One 3/16 Square = Six Teachers.



### FIGURE 2'

Years of Teaching Experience of the Cases Who Identified Good Teaching Practice in Social Sciences (Choices One and Two in Correct Order). N = 229. One 3/16 Square = Six Teachers.

2-4 yrs. (29.3 %) 5-7 4rs. Less than lyr. (14.0%) (45.9%)

(0.4%)

FIGURE 27

Amount of College Training in Semester Hours of Cases Who Identified Good Teaching Practices in Social Sciences (Choices One and Two in Correct Order). N = 229. One 3/16 Square = Six Teachers.

None Less than 30 hrs.	31-59hrs.	60-90hrs.	Dence (1. 67
(54.6%)	(22.7%)	(15.7%	

Component Bar Graph Showing Percentages of Total Cases Who Identified Good Teaching, con't.

### FIGURE 25

Recency of Training of Cases who Identified Good Teaching Practices in Social Sciences (Choices One and Two in Correct Order). N = 229. One 3/16 Square = Six Teachers

2-4 415.000 Last year (69.0%) (17.0%



Course Titles Which Dealt with Handling Children in Teaching Social Sciences (Choices One and Two in Correct Order). 254 Course Titles Given by 229 Teachers. One 3/16 Square = Eight Titles.





Extent of Help in Teaching Social Sciences Which the College Courses Were Considered to Have Given. N = 229. One 3/16 Square = Six Teachers.

Much (52.4%) Some (26.2%) None (10.9%)

F L.

Component Bar Graph Showing Percentages of Total Cases Who Identified Good Teaching, con't.

### FIGURE 29

Age of the Cases Who Identified Good Teaching Practices in Natural Science (Choices One and Two in Correct Order).

N = 367. One 3/16 Square = Ten Teachers.



### FIGURE 30

Years of Teaching Experience of the Cases Who Identified Good Teaching Practices in Natural Science (Choices One and Two in Correct Order). N = 367. One 3/16 Square = Ten Teachers.

Less than 1yr. (43.9%)	<b>2-</b> 4 yrs.	(31.1%)	5-7415. 8-14 15- (15.0%) (5.2) 45 45
			over 2

### FIGURE 31

Anount of College Training in Semester Hours of Cases Who Identified Good Teaching Practices in Natural Science (Choices One and Two in Correct Order). N =: 367. One 3/16 Square = Ten Teachers.

Nicove	Less than 30hrs.	31-59hrs.	60-90hrs.
(5:44 to	(52.8%)	(23.7%)	(16.6%)
			<u></u>

Component Ear Graph Showing Percentages of Total Cases Who Identified Good Teaching, con't.

FIGURE 3

Kecency of training of Cases Who Identified Good Teaching Practices in Natural Science (Choices One and Two in Correct Order). N = 367. One 3/16 Square = Ten Teachers.



Course Titles Which Dealt with Handling Children in Teaching Natural Science (Choices One and Two in Correct Order). 474 Titles Given by 367 Teachers. One 3/16 Square = Twelve Titles.

Educational Bye. The Principles of Teaching Child Growth and Der. Rural (20.9%) (34.4%) Child Growth and Der. Rural (30.4%) (30.4%) (30.4%) (1.1%)

FIGURE 3

Extent of Help in Teaching Natural Science Which the College Courses Were Considered to Have Given. N = 367. One 3/16 Square = Ten Teachers.



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### CHAPTER V

### CONCLUSIONS AND IMPLICATIONS

Perhaps after reading Wofford's summary:

The characteristics of the rural teacher and her work became evident and persistent throughout the study from 1890 through 1930: (a) the feminization of the rural teaching group, (b) the youthfulness and the inexperience of the group, (c) the instability of rural teaching as a profession, (d) the low financial rewards in the field, (e) low standards of scholastic and professional preparation in the field of rural teaching.

there would be little need to summarize further. However, since some of the hypotheses (page 7) and most of the instruments were not like those used in the Wofford study, some generalizations may be made.

### Conclusions

Problem 1: Of the areas of the curriculum which were used for investigation in this study, statements regarding reading bear the least evidence of the application of good child growth principles. Whether the use of the weighted score, which was related to the teacher's knowledge of the progression of method as shown in Figure 1 (page 53), or the use of the rated score which is related to the ability to choose the most acceptable practice in terms of current use as shown in Table IX, and Figure 7, pages 65 and 66 respectively, reading shows that it is being taught with little

application of child crowth principles and with very little realization of the progression of method.

There is more agreement with regard to arithmetic, (Figure 2, page 54). Teachers are doing much better than in reading, as one may see by noting the high pile up of weighted scores which would suggest that the use of methods are not more than ten years out of date. The evenness of the next three groups and the frequencies piled up in them should give no cause to relax methods courses at the college level concerning the teaching of arithmetic.

Natural science (Figure 3, page 55) shows evidence of being taught by modern concepts, which might be expected in Nebraska since this subject area was the last to gain a place in the Nebraska curriculum. Natural science, therefore, had a much newer approach where method was concerned than did the other subject matter areas discussed here. It evidences the application of better child growth principles even in its beginnings.

The best showing of the four areas was made by the social sciences (Figure 4, page 56). The cause for this is not clear. It could be related to the emphasis social science has had in Nebraska's teacher training courses since the integration of geography, history, and civics has taken effect.

Figure 5, page 57, shows that, generally speaking, the use of newer methods is prevalent over methods used more than ten years ago. These findings are emphasized in the line graph in Figure 6, pages 58 and 59. One added point can be discerned from this graphic picture; in the area of the weighted scores 720 to 660, all the areas make very good showing, while reading goes nearly as high as the lowest point on the entire graph for the other three areas covered by the continuum. Another point of interest is, that in the areas of arithmetic, social science, and natural science, the practices in effect twenty-five years ago can hardly be measured, since the responses are so few.

Problem 2: The evidence suggests that supervision is not a very adequate factor with regard to the application of child growth principles to a specific method used by those under a person designated as a supervisor. For example: Madison and Flatte counties and Gratiot county in Michigan were community oriented in the philosophy of the supervisor (Appendix), but when the average composite rating was made for these counties (Table VIII, page 61), it should be noted that in each case the average is considerably closer to a number two than to a number one rating. This would indicate that (1) the teachers may not get enough help in evolving suitable methods or (2) the help they do get may not agree with the child growth principles which they were taught to use in their college methods classes, thus causing disparities.

From Table VIII on page 61 one may see again that the reading continuum average is consistently higher, meaning that it incorporates fewer child growth principles than any of the other subject areas. In all Nebraska counties the order of their listing on the table is reading, arithmetic, natural science and social science. This means that when the effectiveness of teaching is considered in relation to the choice of correct responses, reading is least well taught, followed by arithmetic, natural science, and social science, respectively.

Problem 3: One of the major findings of the study involves the results of the correlation of certain items found on the personal data questionnaire to the ability to teach as exhibited in the teachers choice and the placement of responses in correct order on the teaching continuum.

When age was the factor correlated to ability, the correlation was negative  $(-.16 \pm .02)$ . This refutes the statement heard in educational circles, 'If these older teachers would just go back to school . . .' or 'These young teachers don't know what teaching is all about.' There seemed to be no relationships at all between the two parameters, within the limitations of the instruments used in this study.

When the recency of training was the factor correlated to ability, the finding was also negative  $(-.007 \pm .02)$  which would again, in so far as this limited study was concerned, refute the statement that how lately a teacher had received her training would somehow relate to how well she could choose modern methods. It could mean, upon further investigation, that the teacher who stayed on her job also keeps up with the current educational method. There were not enough

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data to make this statement hold true within the premise of this study, however.

Another correlation involved the use of the number of college hours the teacher has and the ability to teach. This correlation was also found to be negative  $(-.03 \pm .02)$ . We could say that, within the limits of this study, the amount of education a teacher has bears little relation to how she teaches.

Two measures in this group bore positive relationships: the extent of help the teacher felt the college classes had given  $(.21 \pm .02)$  and the number of years of teaching experience  $(.004 \pm .02)$ . The first of these two bears a stronger relationship and is a significant finding to the five per cent level. What it seems to say is: If a teacher thinks her college classes were of help to her in her profession, they were. It becomes, then, a matter of attitude. This significant finding is in line with the current educational generalizations of the day. The relationships with regard to years of teaching experience has a low but positive value. Perhaps if the personal data measuring instrument was further refined some significant clue to ability to teach could be found. It is strong enough to warrant further investigation.

A phrase often heard in educational circles is expressed in the statement, 'She's a born teacher'. One of the original tenets of this study involved finding whether being a good teacher in one area means teaching well in other areas of the curriculum. The Pearson correlation formula was used to

determine if significant relationships were evident within the limits of this study. Between good teaching in reading and  $e_{0}$  od teaching in arithmetic the correlation was .29 + .01. This means that those who picked good arithmetic practices rated significantly higher in their choice of good reading practices. Reading, however, did not bear high relationships with any other field (social science .16, natural science .17). Arithmetic consistently showed high correlations with social science and natural science (.20 and .23, respectively). Although these correlations are not significant beyond the one per cent level there seems to be some evidence that if one des ired to pick a good teacher he need only to know how the teacher teaches arithmetic (and could therefore see evidence of EOOd child growth principles), he would have reason to believe that this teacher could also teach effectively in other areas of the curriculur.

This study was concerned with relative 'goodness of teaching' as well as trying to determine the status of the teaching done within the limits of the data known. Table IX, page 65, shows the figures taken from the continuum ratings to help us see this picture. Both extremes are shown -those who choose well and those who seemingly do not recognize a good measure when they see it in print. Again, in ability to choose the best response, the reading statistic is by far the lowest. Note reading 184, arithmetic 388, social science 601, and natural science 479. These figures include only those who could pick the first response but who may not have had any of the other five responses in correct order. In other words, they knew current practice but not necessarily methodology. The field narrows quickly, however, when we look for those who can pick responses one and two correctly. This holds true for all the areas, but is particularily true of reading responses. In two instances first and second choices (6 and 5) were found, but  $a_{1}a$  in those two choices were in the area of reading. Only in the field of reading were enough number 6 responses to show on a graph of any sort. Even in the field of reading no one placed responses six, five, and four as first, second, and third on the continuum. No one was completely out of line although forty-two were dangerously so. In order to show this concept graphically the rectangular graph, unlike others the author has seen, shows the entire sample as a square, of which the least square is a Dart of each of the two succeeding squares as well as those two being a part of the whole. At one glance one can see how the parts fit in relation to each other and to the whole . Figures 7, 8, 9, and 10, pages 66, 67, 68, and 69 show this relationship for reading, arithmetic, social science, and natural science, respectively.

One of the more interesting findings of the study, not included in the original tenets, involved using the single indices, i.e. the age, the recency of training, etc., and finding which of the teachers who could pick good responses fell into these catagories. The component bar graph was used to show this finding. Figures 11 to 34, pages 71-78 show this

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finding. Using the area of reading, it can be seen that of the **fifty-seven** people who identified the currently good reading parameter fifty-six per cent of them were under twenty-one, had less than one year of training, less than one year of teaching experience; sixty-eight per cent of them received their training last year; they chose about equally those principles, courses, and child growth courses as the ones that helped them deal with children; and fifty per cent of them were helped by those courses to a degree which they characterized as much. This kind of insight can be seen in each of the areas. Of all the areas, teachers found their college training in the teaching of natural science least helpful. Perhaps methods courses in natural science ought to be carefully evaluated. One can also see that while only five per cent thought their reading courses did them some good 🖕 it is quite evident, as elsewhere established, that the reading courses must not have been very effective.

Problem 4: Lastly, the concluding insight involves a look into the statistics of the entire sample related to the personal data. Of the seven hundred forty-eight teachers whose answers were complete enough to be considered a part of the study, nearly forty-seven per cent of them were under twenty-one; fifty-four per cent of them had less than one year of experience; only two per cent of them felt that their college classes related to child development and method helped them a great deal (over half said the help would be rated as much); fifty-four per cent had less than thirty hours

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of college credit. Figures 35 through 39 and Tables X through XIV, pages 79 through 83 show also that the numbers involved at the other extreme of the questionnaire linear scale have negligible percentages. These findings point up the high percentage of teacher turn-over each year among those who teach in multiple-grade situations.

This set of statistics establishes the fact that what Wofford was saying in 1930 is still quite true in the geographical area involved in this study, particularly, Nebraska. They come to the multiple-grade classroom young, and stay such a little while that the influence they could cast in the realm of good child growth practice is greatly hampered.

### Implications For Research

An intensive and extensive study which would be most profitable would be one carried on continuously so long as multiple-grades exist to assure the child who comes to this type of school that his teacher is aware of good practices in methodology in child growth.

Better implementation of methodology is needed in texts, as is observation of good methods and practices in perfecting their use at the college level before going into the field to teach in a multiple-grade setting.

There is need to investigate the methods of teaching a child to read even more thoroughly than in the past. More research of the type done by Nally, Udoh, and Rusch needs to be presented in a forceful manner in order that educators . الا - ا

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might see the very close relation child growth studies have upon reading.

Lastly, those systems which bring good child growth principles to bear upon their child clientele by placing multiple-grade situations within their larger systems should be studied. It may well be that within the multiple-grade organization, in spite of the youth, immaturity, and lack of experience of those who teach in this type of classroom now, may come the best opportunity science can provide for good education of the whole child. .

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## APPENDIX

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#### APPENDIX A

#### CHECK LIST DISTINGUISHING AMONG THREE PHILOSOPHIES OF EDUCATION

Judge each of the following statements in the light of your own philosophy of education.

From the scale below select the code number that best describes your agreement with the statement. If you agree completely with Item 1, place a one (1) in the blank preceding the item. If you disagree completely place a five (5) in the proper blank. If you are neutral regarding the statement, place a three (3) in the proper blank. If your reaction to the statement is between 1 and 3 place a two (2) in the proper blank, etc.

Answer every item.

SCALE

1	2	3		5
Full		Neutral		Complete
agreen	nent			disagreement
1.	The child i to grow nat	s innately gurally.	good <b>and</b>	should be allowed
2.	Learning sh and process	ould be organized of community	nized ar hity livi	ound the problems
••••3•	The child m a civilized	ust be disci human being	plined i	if he is to become
••••4•	The pupils learning ac their inter	should help tivities so ests.	the tead they wil	cher plan their l be following
••••5•	The child i either depe	s neither go nding upon h	od nor b lis exper	oad, but may become viences.
6.	The curricu arithmetic, science, an	lum should b spelling, s d like subje	e center locial so locts.	ed around reading, iences, language,
••••7•	How a child tant as what	feels about t he learns.	; what he	e learns is as impor-
8.	A child sho	uld gain kno	wledge a	and thus he will be-
••••9•	Teacher-pup ment of good	il planning d citizenshi	is neces ip in a d	sary for the develop- democracy.

10.	Learning activities should be determined by, and
r I	centered around pupil interests.
11.	The community is a source of learning materials
	and experiences.
12.	Competition and rivalry are the best incentives
	to pupil achievement.
13.	School children should have a part in activities
	to improve the community.
14.	Good books are the best source of learning for
	the child in school.
15.	The evaluation of the child's learning should be
	based on how well he is able to solve his daily
	problems.
16.	A basic aim of education is to help the children
	comprehend, and express their feelings about their
_	experiences.
17.	The study of geometry develops a logical mind.
18.	The child realizes his best self in situations
	where he can creatively express himself.
19.	The school has a responsibility to help make the
•••	community a better place in which to live.
20.	Standard achievement tests are the best means of
~	determining if or not a child should be promoted.
•••••21.	Any teacher must know the community thoroughly
	and be able to use its resources to be a success-
00	Tul teacher.
•••••22•	Education may be thought of as growth, especially
	in the ability to reconstruct past experiences to
22	SOLVe problems.
•••••<3•	understanding is best promoted by a logical develop-
21.	ment of the course of study.
•••••24•	The school child should be encouraged to concern
	nimsell with important adult problems.

SCORING DETERMINENTS:

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Academic Question 3 5 8 12 14 17 20 23	Orientation Score	Progressive Question 1 4 7 10 15 16 18 22	Orientation Score	Community Question 2 6 10 11 13 19 21 21	Oriented Score
23 Tota		22 Tota	al	24 Tota	al

Composite rating

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	APPENDIX B	103
	QUESTIONNAIRE AND JUDGMEN	r continuum
Chil	d Development Laboratory	Office of Paral Education
lich	igen State College	State Teachers College
last	Lonsing, Michigan	Wayne, Nebraska
	March 29, 1955	,
1	Dear Teacher:	
	• Rural education and child important words in your life! 7 cause you teach in a rural area.	l development are That must be so be-
• 1	* In order to carry out a r rural education I need your coop	esearch study in eration.
	* If you will frankly check facts and state your opinions on bles you will be doing rural edu vice.	the necessary the following ta- cation a real ser-
·	* Please feel free to give	comments on any
1	phase of child development as it	pertains to your
	ovn case. Jour reactions are in study.	portant to the
	You may return the comple	Your prompt rea
1	turn will be treated by code num name; therefore it will not be n your name.	ber and not by ecessary to sign
	Thank You.	
	Lula R	Hay
	State Teache Nome Nober	rs College

If you wish to have an abstract of this study fill out the mailing label below.

Name

Street or R.F.D.

Post Office

PART 1. QUESTIONNAIRE

# PERSONAL INFORMATION FORM

			Check	One	Code
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• my school is in	Ne	braska			
(County)	S.	Dakot	•		
Place a check mark (1⁄) on the best describes your case.	e line	over 1	the re	sponse	which
. Age		1	1	1	1
	Under 21 years	21-24 years	25-44 Years	45-59 Jears	Over 60 years
• Marital Status	•	1	1	1	
	Marrie	d Sing	le Div Sep	erced or stated	Videwed
. Sex	N	1=1=		7484	1• .
				• .	
• Teaching Experience	less than 1 yr.	2-4 yrs.	5-7 718.	15-24 7rs.	more than 25 yrs
				•	-
. Amount of College Training			,		
	néne	less than 30 hrs.	31-59 hrs.	60-90 hrs.	degree
	,		1	1	1
• Kind of College Attended	State	Private	State	Private	ather
	Univ.	Univ.	Teach. College	Teach. College	
. Recency of Training	1	1	ł	1	1
,	last 2 yr. 3	-4 5- 75. yr 80 88	7 8-1 s. yrs o ago	7 18-24 • yrs • se•	than 25 yrs age
When you were preparing for	teachi	ag, whi	ich of	the f	ollow
ing titles were used in the	college	cata	logue	to des	cribe
the course you took which de	alt wi	th hand	dling	childr	• . ?
Pedagody Educational Child Person Psychology Study Develo	ality Pr pment T	inciples of eaching	Child G and Develop	rowth Sy	ecify any ther
0. To what extent did these cou	urses (	- offer v	von di	rect.	-
usable help?			,*	~~~~	
None Some Muc	h ľ	Very mu	ch help	A great	desl

None I had to learn by experience	Some but most of the book did- n't work.	Much help.	Very much help most of the book sugges- tions worked.	A great deal in fact near- ly all my problems were answered.
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20L

#### PART 2. JUDGMENT CONTINUUM

#### SUBJECT MATTER CONTINUUM FORM

----- On the reverse side of this page is a series of ladders, one ladder for reading, one for arithmetic, one for social science and one for natural science. Attached to this side of the page are four sets of responses not arranged in any particular order.

----\* The blue responses are for the reading ladder.

----\* The yellow responses are for the arithmetic.

---- The pink responses are for the social sciences.

----\* The green responses are for the natural sciences.

Begin with the blue reading responses. Remove them from this page; read them and then place them on the reading ladder (on the reverse side of this page) with the response you consider least advisable to use on the bottom rung. Then fill in the rungs until you arrive at the top most rung with the response which you would judge would represent your best teaching.

-----Place yellow responses in like manner on the arithmetic ladder. -----Place pink responses on the social studies ladder. -----Do the same for the green responses on the natural science ladder.

-----\* PLEASE MAIL YOUR RESPONSES PROMPTLY \*-----

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	<b>##</b> .2	V. Ib						342516	3	132456	1	341256	3	215 346	. 2	9	Ì
	##4				FΓ	] 🜌		341256	3	246315	2	23546	12	125436	1	8	
	<b>#</b> 45	11/2						243154	2	123456	1	12453	/	124365	. /	5	I
	446							342156	3	132465	1	2/543	2	12436	• /	7	
	448		::::					213564	2	34/265	3	135426	1	123469	,	7	
	449							431254	4	213456	2	142354	/	23465	1	8	
	465		;;;					+31265	4	134524	1	123456	1	125436		7	
	467		////					146532	1	412365	4	143526	/	214365	2	8	
	513		III/i					654231	12	531264	5	143562	. /	124365	1	13	
	514							4/3265	4	413256	4	23/645	2	124356	/	//	
	515							463125	4	314526	3	13245 k	1	123465	1	9	
ł	576							3/2454	3	134526	1	123546	1	124350	1	6	
ł	608							421365	4	245136	2	154362	1	126453	1	8	
ł	609							435261	4	243156	2	143256	(	126346	1	8	
	610							132#56	1	134526	1	164523		124356	1	4	
-	693							431526	4	132456	1	213456	2	123465		8	
	694							412635	4	342516	3	123456		215436	2	10	
	695							431265	4	436215	4	513426	3	145362		14	
	696					E		2/3456	2	312456	3	134254		124365		7	ı.
ł	697					国		421356	4	214356	2	123465	2	23/456	2	9	
ľ	698							362154	3	314256	2	251465	2 7	4/2 356		7	
	70/							74653	, 2	93/54/	2	147356	1	124365	<b>*</b>	6	
	702							475/24	24	143254	1	214356	2	124365	1	8	
	703							143265	/	134256		1245.3	1	125634	1	4	
	704							24/365	2	314256	3	132546	1	214356	2	8	
	705	Ę			Ā			624513	6	452316	4	614325	6	351246	3	19	
	706	$\Box$	$\Box$		Ē			145236	1	25/364	2	123465	1	342165	3	7	
ţ,	07				$\Box$			24/365	2	23/456	2	124356	1	124365	1	6	
	746	1111			$\Box$			461325	4	543216	5	135246	1	3442 65	3	13	
ł	747							624/53	6	421365	4	154632	/	126354	2	12	
7	~							421356	4	134526	1.	416523	4	<b>213</b> 456	2	11	
				-								. (				1 1	

Cedar County

00 F	Extre Extre		A HOLLAN F	ALCENCY L-T-T-E	STENTEN	RATIN	RATING	ARITHME	NILIN	SCIENO	RATIN	NATURA	RATIN	T.C.
			-	<u>\@_\$\</u>				10 31		GR.	t. (j. )	GHF	mui	1.24
750	Ula.	alla.				142356	1	132465	1	154326	1	214365	2	5
751						421536	4	143526	/	123456	1	123456	1	7
752						4.21 356	4	321456	3	132466	1	214365	2	10
753						123465	1	132546	,	125436	1	123654	1	4
754						421356	4	243651	2	541236	5	124365	1	12
755		$\Box$				146325	1	241356	2	132456	1	124536	1	5
756						251463	2	4522/6	4	<b>\$</b> /4326	5	123465	1	12
757	////.					412365	4	435216	4	134256	1	134256	1	10
758						4/6325	4	241356	2	132456	1	124536	1	8

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Colfax County

18	AC					6 3			RA	PANSC	R	500	RAR	N N N	2 8 3		
	~/.	$\nu$							المح ق		a I	E CE				<u> </u>	
			H	7 2	<u> </u>			<u></u>		10 7		0 m		<u>6 m r l</u>	11. 2	<u> </u>	Ì
	252							416 325	4	234/56	2	142356	/	124356		8	l
	276					1		431265	4	34/625	3	(#3256	1	43562/	4	12	
	277							125463	1	143526	1	124356	/	123456	/	4	
	278							326154	3	146253	1	135264	1	124356	1	6	
	279							432166	4	34/256	3	243156	2	124635	1	10	
	280							325/64	3	146253	1	152634	1	134526	1	6	
	287				H			24/625	3	625/34	6	213456	2	432/56	4	15	
	207	Ħ	H					374165	3	25436	2	143256	1	435621	4	10	
	<b>c</b> /7							4(2)75	*	134256	1	143562	4	24/536	2	11	
	36.2 Exc							+176/5	4	46253	1	123456	1	142356	1	7	
	365							213454	2	241156	2	1#2356	1	124365	1	6	
	57/							#13265	4	¥/2536	4	4/3526	4	413526	4	16	
	6 70							425163	4	134526	1	134256	11	213465	2	8	
	1 20							412356	4	134562	1	15#236	/ 1	invalid	-	-	
	630							243156	2	143265	1	135426		142365	1	5	
	631							246/53	2	1234 65	1	132456	1	132456	1	5	
	634	H	H		H			23/456	2	324156	3	143526	1	1z4 <b>3</b> 65	1	7	ł
	635	F	Π					423615	4	132456	1	125436	1	124 <b>35 6</b>	1	7	
	636		11111					413245	4	****	1	513624	5	214563	2	/2	ļ
	<b>k 3</b> 7	E						642135	6	+31256	4	513246	5	143256	1	16	
	638							412365	4	134256	/	2/3465	2	124365	/	8	
	640						<i>ANNI</i>	314265	3	134256	/.	163254	Ϊ,	2/3465	2	17	
	641					<u>EII</u>		124356	1	23456		134256		/42356	/	4	
	644							412365	4	134652	1	214536	2	341256	3	10	
	646			1. MI			11111	421356	4	134256	1	124536	/	34/265	3	9	l
	647							21435 6	2	423156	4	134526	1	214563	2	9	
	648	币						124635	//	123645	1	25/463	2	/23654	1	5	
	649	F						4/3265	4	M3256	1	143652	1	123465	/	7	
	650	$\Box$					$\Box$	426315	4	<b>#35/</b> 26	4	13265		124536	/	10	
	651		$\overline{\Box}$					483152	4	426315	4	143256	/	124356	/	10	
	653	F						461235	4	314265	3	156423	1	416253	4	12	
	454	Ē						214635	2	134526	1	/24536	1	142356	1	5	

Colfax County

CODE	ENT	TARIENS	AMOUNTS	TILLet	A HEL	EXTENT EXTENT	READING	RATING	ARITHME	RATING	SociAL	RATING	NATURAL	RATING	Contposite
655 657 662 663							216345	2 1 6 3	325416 312465 453261	3 3 4	134265 134256 124356 142635	1	342/65 213456 321456	3231	97146
667							412635	4	3425/6	3	123456	1	2/5436	2	12

Dakota County

6	Yer Yer	erve	TRAIEN	ALMONT I	Recenced I	Course	EXTENT	READIN	RATING	SULLAN A	RATING	SCIENCE	RATING	NATURA SCIENCE	ANTING SCORE	Lesinger La
	776							251463	2	245316	2	154326	1	123465	1	6
	777				F			412356	4	314265	3	142356	1	214365	2	10
	778				一			123456	1	134256	1	124536	1	123654	1	4
	779							631425	6	312654	3	213456	2	512465	5	16
	780	F						64/235	6	134256	1	132458	1	215 346	2	10
	781					团		462/53	4	4523/6	4	34/256	3	124365	1	12
	782	Б			$\Box$	E		213456	2	134526	1	134526	1	124365	1	5
	783		$\Box$					214653	2	134256	1	143562	/	214365	2	6
	7 <b>8</b> 4							421365	4	134526	1	24536	1	124356	1	7
	785							462 <b>3</b> /5-	6	435216	4	134625	1	/24356	/	12
	787	FI	Π		$\overline{\Box}$			43/526	4	132456	1	124563	/	213465	2	8
•••	198							405213	4	245316	2	123465	1	124365	1	8
	907		Н		Ľ	E		432/65	4	26/345	2	3/2465	3	123456	1	10
	908		$\Box$		$\Box$	目		132456	1	423/56	4	145230	1	2/3456	2	8
	909				$\Box$			642153	6	<b>%2/53</b>	4	3/5462	3	421635	4	17
	910							#26315	4	134256	1	135246	/	321465	5	0
	911				$\Box$			2 <i>341<b>6</b>6</i>	2	541324	5	143926	/	/24365		7
	9/3					ШI		463251	4	421356	4	153426	/	123456		10
	916				$\Box$			213465	1	135462	1	123465	1	134652	/	4
	917							135465	1	125436	1	142356	1	132456	1,	4
	918							324561	3	412563	4	132456		/ 24 756		7
	919							423156	4	/32456		1742.0	,	135744	1	6
	920							3/2456	3	125436	,	/2/3/3/	<i>'</i> ,	182456	,	μ
4	921							124365		124363	<i>.</i>	13/10/2	,		1	in
	922							46/325	4	795/26	¥	21112	2	1 49 2 63	2	
	923							34/256	3	635/42	6	577236		43654/	~	<b> </b> ′×
:	924		$\Box$					2/4365	' <b>2</b>	Y34562		2/3456	~	215544		7
L I	956							312546	3	341256	3	142356		42/365	4	11
	957	$\square$						231450	2	312564	3	123456	/	2/6435	2	8

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Dixon County

/ 6,	) Å		<u>,  </u> 3			<u>;</u> ],*	<u> </u>		3\ 3			~ <u>%%</u> /~	3/3			19
7	$\frac{\pi}{2}$	m /			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		52			23	الحر			1 2 2 2	OR	
		· · · ·		0 2	5 61	w w/	1	<u>8 0 (</u>	<u>"                                    </u>	0 21	<u>v e</u> /	8 H.	<u> </u>	OWE	m 1	<b>F 8</b> "
	708					冝		425136	4	143256	1	142356		2/4365	2	¥ ,/
	710							143265	1	134256	/	1245 <b>3</b> 6	1	125634		4
	7/2							456123	4	132645	1	124356	1	124365	/	7
	7/3	F						721456	3	146253	1	2/3456	2	3/2 <b>45</b> 6	3	9
	715							241254	2	24/356	2	124365	1	125463	1	7
	// S							38430	5	1/25/24	Ľ	412365	4	231465	2	11
	718							/32465	(	743/30		(1 0/3)		1000 621		7
	738		$\Box$		$\Box$			214365	2	314526	5	125#96		/#7 > 36		7
	740							412365	4	134256	/	124365	1	/24365	/	
	741				$\square$			231456	2	3/5426	3	125436	(	142 365	/	/
	742							143265	1	143526	1	1425 43	1	1245 <b>36</b>	1	4
	743							24/625	3	124635	1	3/2456	3	321465	3	10
ľ	762	Ē	日			e		465 213	4	324156	3	124356		42/659	7 1	7
	789							423156	4	134265	/	/4536Z	/	129463		7
	795							423156	4	134265	1	145362		123465	/	
	796							46217	4	2453/6	2	123465	1	(24365	/	8
								447254	3	/53246	1	125436	1	234465	2	7
ľ	798 798							436 2 <b>5</b> /	4	3424/5	3	135246	1	234165	2	11
	7 99 7 99							471265	4	134256	1	132456	1	124563	/	/
	811				নিয়া			413265	4	#5732 G	4	123456	1	125634	1	10
	8/2	F	$\overline{\Box}$		$\overline{\Box}$			132456	1	143265	1	123 <b>546</b>	1	2/4635	2	3
	813							53442	5	462315	4	3526/4	3	432615 128436	4	16
Į	814							415236	4	425136	4	124536	1	124563	1	7
ľ	8/3 8//							4 5/265	4	#3/526	4	145362	1	219456	2	<i>.</i>
	16. 18						H	324465	7	/34256		164523	1	421635	4	9
	ar o 8/19				Ē			413256	4	231465	2	145263	1	134256	1	8
	120	F	Ē		F			421365	4	32/465	3	134256	1	142356	1	9
,	821	F			Ē			42153	4	3/8256	3	123456	1	24356	1	9
	823	F			Ē			473576	4	<b>32</b> 456	1	132465	/	124365	1	7
	124				Π			132451	•	143265	1	123504	1	214635	2	5
	825	H						#15236	4	425736	4	123465	1	125436	1	10
	527							132465	1	134256	1	135246	1	124365	1	4

H6C		TRACE	AMOUNTS	TI-1-1-	of HE	EXTENT	READING	ZATING	ABTING SCOT	RATING	SCIENCE	RATING	NATURAL SCIENCE	RATING	TELORE
828							432615	4	314256	3	134526	1	134265	1	Ì
\$ 29							4/2635	4	431526	4	145362	1	113456	2	
830		<b>100</b>					426315	4	231465	2	143526	4	142356	1	
\$32							421365	4	321465	3	134256	1	142356	1	
833				F		F	432165	4	3/4265	3	142635	1	214365	2	
834	5	F		F			231465	2	312456	3	354126	3	136425	1	
835	F			F			261435	2	412356	4	143256	1	136425	1	
837				F		777	421352	4	2/3456	2	134256	1	113465	1	
838	-	F		F			#23516	4	132456	1	132465	1	124365	1	
839							124365	1	134256	1	134562	1	124356	1	
840				F			132465	1	134256	1	135246	1	124365	1	
841							6 435 21	6	563/42	5	136254	1	265413	2	
843					-		432615	4	3/4256	3	134526	/	134265	1	
875							643215	6	251643	2	381546	3	23/456	2	
877	-			F			243156	2	132645	1	234156	2	126543	1	1
878						7777	416253	4	431526	4	314265	3	214635	2	1
\$79					4		23/546	2	132465	1	124356	1	123546	1	
880					ITT		124356	1	3/4562	3	123654	1	431265	4	1

Holt County

10	E / E	5/	12 12	AN	RECC	186	EXT	REA	SA A	RAA	SA	1250	SA	PSA	SRA	LIG	Í
/	m/	/	ILENCS	IN INC	NIZX	12.21	ELAT	TIN	ORE	TIN	ING	ATIN	COR	TURA	CORI	PC-HI	
	147							0.0		100	100 -	16 m	100	1887	14.	1.5	m
	150							#635/	2 4	314256	3	143520		124635		7	
	2				-			42136	5 7	13426:	° /	16325	"	12456	1		
	201							42136	5 4	3/6453	2 3	3/245	6 3	124350	·//	11	
	202	Ш						34/25	6 3	25/346	2	275/6	12	142350	1	8	
	203							42631	5 4	134520	1	13465	2 /	124536	1	7	
	209	F			F			12456	3 1	132456	1	12534	1	143250	. /	4	
	210	F	F		F			426215	- 4	34156	3	251369	2	15462	1	10	5
	211	F	F		F	-	=	ling	-	invalid	_	invalid	-	invalid	-	-	-
	2/2				E					10000	Ι,	174562	1	124526	1	-	
	2/2				H			invalie	1	133716	4	1472 61		124345	1	10	,
	213	-						43265	17	43/256	17	179206	12	147905	1	1	
	218	-	H	<b>P</b>	H			124356	ľ,	123456	1%	(32456	1	2/3456	2	5	
	2/9				Ħ			123465	1;	123456		132456	1	213456	2	5	
	1.		SSSS		H		1	12510	'		1	142626	4	21/2/0	2	-	
·	220							invala	1-	143256	1	177445	1	172454	Ĩ	6	
	222	1111						2/3456	1	2/4356	1	113454	2	123456	1	8	1
	223	4			H			423156	4	125436	'	13450	7	24/356	2	6	
		=			H			2/3456	1	45336	4	147561	1	561324	5	14	
	227	100			H			432156	7	134256	1	142356	1	124352	1	-	
	228				Ë			217544	3	3/6425	3	261354	2	153462	1	9	
2 -	229				E			342561	3	135462	1	345162	3	432561	4	11	Í
10	30		1					243561	2	532146	5	153426	1	124563	1	9	
-	231	_						143265	1	126453	1	523/46	9	124336	/	8	
1.	32	2			<u> </u>			6235¥1	6	134256	/	146523	1	124635	1	9	
-	233					100		423156	4	231465	2	351462	3	146235	1	10	
-	234							234156	2	153264	1	124635	1	123465	1	5	
-	35					=!!!		123546	1	123456	1	213456	2	123465	1	5	
-	39				12			invalid	-	136425	1	213456	2	142356	1	-	
2	40	-						431265	4	314256	3	326154	3	314562	3	13	
2	41							invalid		132456	1	315246	3	134265	1	-	
2	43							143625	1	134562	/	125436	1	124356	1	4	
2	44							213465	2	124356	1	23465	1	123465	1	5	



100	DE TO	a / a	of it	AMOUN	RECENC	TITC COMPSE	EXTEN	RATIN	RATIN	RATI	RATIN	SCIEN	KATIA	RATUR	RATIN	Compos TEACH Scok	
		$\rightarrow$	18	13-	18	1	10-1	100	la e	18 5	In a	No R	10 2	10 R ₹	100	ins:	-
	245							+163 2	5 4	23415	0 2	14235	6 1	12435	6 1	8	
	246				E			invali	a _	134256	1	134250	6 1	21345	6 2	-	•
	247				F			21346	5 2	132456	1	14256	1	12345	6 1	5	•
	248							21346	5 2	124356	1	123465	1	123450	6 1	5	1
	250							213546	12	134256	1	134254	1	213450	2	6	
	251				F			41362	5 4	432/56	4	123456	1	124365	1	10	·
2	253	E			F			14362	5 /	134561	1	125436	,	12435	1	4	
	254							31452	3	413526	4	135246	. 1	2/4365	2	10	,
	255							456213	4	453126	4	132465	1	126345	1	10	1
	256							623514	6	432561	4	315246	3	134265	1	14	1
	257				F			134526	1	136425	1	213456	2	1#2356	1	5	I
	258		E					632541	6	143256	1	146523	1	24635	1	9	I
	259		Þ					+32156	4	453216	4	143562	1	561324	5	14	
	260							14325	1	124365	1	143256	1	213456	2	5	I
	261		F		F			351624	3	436521	4	463125	4	461253	4	15	1
	262					an		132456	1	2/3456	2	123456	1	124356	1	5	
	281			日	Б			435216	4	341625	3	1#2356	1	23/456	2	10	
	282		14.			1		236145	2	134256	1	123456	1	124653	1	5	
	283							241635	2	341526	3	312546	3	12#635	1	9	
-	284							431652	4	34256	1	145326	1	324165	3	9	
1	286.						11111	34/625	3	3/4526	3	134526	1	143265	1	8	
ł	288		1.0	***				413256	4	314526	3	123465	1	124653	/	4	
	289	_						132456	1	314256	3	2/4356	2	123654	1	17	
-	290					2		463/25	4	134265	1	124563	1	124563	1	7	
	291					<u>.</u>		134562	1	135246	1	143520	/	123465		7	
-	293							153426	1	143562		123456	1	123465	1	4	
	294							342/65	3	416325	4	156234	1	426/35	'	9	
-	295							253146	2	143256	/	234156	2	312546	3	8	1
-	296							124356	1	3/4265	3	123654	/	2/3456	2	7	
ŀ	298							432615	4	24/356	2	312546	3	124635	1	10	
F	299							214356	2	345216	3	54/236	5	214536	2	12	
-	300							423/56	4	234165	2	134526	1	125 436	1	8	

Holt County

Ce	HOOF HO	e ce	TRAIENC	AMOUNT	RECENCY	of TLE	EXTENT	READIN	RATING	KH HM	RATIN	SOCIAL SCIEN	PATIN	SCIENS	RATIN	Composite	1
	-		14	la sr	103	+		12001		0 7	500	196	1010	SHF	m c	1 80	
	302							123645	1	423156	4	451623	4	2/3645	2	11	
	303	F	H		F			145263	1	123456	1	413265	4	341526	3	9	
	304				F			413256	4	341526	3	145263	1	123456	1	9	
	305		F		F			314265	3	234165	2	134562	1	124356	1	7	
	366	F	F		F			435216	4	453612	4	361452	3	453612	4	15	
	307	F	F		F			413256	4	124356	1	134256	/	124635	1	7	
	308	F	F		F		_	423/65	4	43/2 65	4	142356	/	2#3165	2	1)	
	309				Fi			123645	1	423156	4	45/623	4	213645	2	0	
	310							423/56	4	234165	2	134526	/	125436	;	8	
	311		243					462315	4	243156	2	/34562	',	123465	2	11	
	312							46/235	4	43/256	4	135642	1	124365	1	5	
	314							213456	2	134256	/	/250+5	,	123445	1	8	
	315							4623/5	4	243/56	2	134562	,	74/35/	1	8	
	318							413256	4	134526	/	125436	'.	2/4336	7	8	
	319							413256	4	143256	/	123456	',	2/4635	2	0	
	320	F						412365	4	432156	4	123645	',	134625	1	6	
	32/							241356	2	134265	/	124536	.'	124536	;	7	
	322							413526	4	132456	1	124536	',	13403	1	7	
	323							432/56	4	134652	1	145362	',	2465 3	,	7	
-	326					1		421365	4	143265	1	134562	',	218456	2	8	
	327							415236	4	134526	1	123436	1	1/4354	2	10	
	350							34/256	3	4/3256	4	112265	i	42/356	4	12	
	351				<b>2</b>			465213	4	3/4256	1		;	214653	2	11	
	352				LR.			456213	4	453/26	4	133920	'	124563	1	7	
15	353							421536	4	132456	',	1422 64	;	124356	1	7	
	355	***				28		412365	4	134256	'	4325 6	1	126453	',	7	
	356							412635	4	134526	1	124363	'.	10.00		0	
	357							312456	3	134625	1	124536	!	721365	7	1	
	358							132456	/	134256	1	123456		4/2365	4	1	
5.	359							426351	4	312546	3	415623	4	2/6435	2	13	
1	385							621354	6	265431	2	412365	4		/	13	
- 19	386	111	100		Fi			423450	4	243156	2	145263	1	2/6345	2	9	

Holt County

10	10	C Este	TRINI	Amoun	RECEN	Cont	EXTEN	READ	RATI	RAT	RATI	scie	RATI	SCIE	RAT	TER
1	1001		12	12 4	22	mm	5-1	NO	1 2 C	Ner	W SI	NG	NG	NOF	RENG	HING ST
	387		-	-	-			413256	4	134256	1	134526	1	123465	1	7
	562							241356	2	143256	1	123456	1	123456	(	5
	564							432156	4	134526	1	135462	/	125643	1	7
	625				F	不		#12563	4	342156	3	142536	1	142356	1	9
	626				F			143526	1	143265	1	124536	1	123465	1	4
	672	1			5		1111	416235	4	143256	1	(+365Z	1	123465	1	7
	673				H	461		426315	4	435126	4	132654	1	124536	1	10
	674							413265	4	432156	4	134526	1	123645	1	10
	675				=		TITA.	213456	2	312456	3	314256	3	214365	2	10
	676	1111			=			463/52	4	426315	4	143256	1	124536	1	10
	677				F			436125	4	124356	1	12345-6	1	23465	1	7
	680				E	*		461235	4	344265	3	156423	1	416253	4	12

Knox County

16	)=	1	TRA	Amo	rec -	Sel of	EXTE	RELOC	A.	RATI	2	socia	A A	NA	RAN	TOT	
/	m/a	n /	1 ENCE	1NT of	NINCT	LE SE	ELTS	TING	RE	HUREN	ORE	ENCE	ORE	ILINGE	CORE	ACHIN	1
	469		<u> </u>					465221	4	134256	1	124365	1	213465	2	8	1
	470				5			465312	4	413562	4	153462	i	23/45	2	11	
	471					2002		+3/265	4	134526	1	123456	1	125434	i /	7	1
	472	7						231465	2	312456	3	126453	1	12465	1	7	
	473							234165	2	43/256	4	543126	5	12345	1	12	
	475		H					2/4356	2	143625	1	134526	1	12436	1	5	
	476	=	F		H		2000	23/465	2	3/2456	3	126453	1	12465	1	7	
	477				8		200	213456	2	134256	1	145362	1	312465	3	7	
	594		100					#12365	4	314526	3	143526	1	3/2465	3	11	
	595		2.33		F	酮		413265	4	314256	3	142356	1	124356	1	9	
	596						7777	136425	1	143256	1	314625	3	124536	1	6	
ł	591				Ħ	-	F	34956	2	3/2465	3	145362	1	123465	1	7	
8.	598				Б			465312	4	413256	4	415362	4	214356	2	14	
	599				F			312456	3	246531	2	143562	1	125463	1	7	
ł	600		E		E			452136	4	134265	1	341256	3	214356	2	10	
	601							123465	1	3/4526	3	143256	1	124653	1	6	
4	602		:,//:					425136	4	143265	1	134256	1	124356	1	7	
4	603							132465	1	341265	3	132456	1	123465	1	6	
4	504							123465	1	314526	3	143256	1	124653	1	6	
6	605				$\Box$ .			312465	3	134526	3	123456	1	132465	1	2	
1		$\exists$						412536	4	134256	1	124536	/	123465		1	
	80.0					Ш		32/645	3	132456	2	163542	1	124365	/	6	
	85	<u> </u>	<u></u>				11/12	216345	2	325416	3	1342 65	!	342165	3	7	
	PL	=' ŧ	=! #		_!			431256	4	134265	1	1345 26	5	123456	1	1	l
1		=' ±	=' #		_!			136245	1	2/3456	2	2/4356	2	123465	1	6	
E	87	_	-! #			₩.		134256	/	135246	/	2/3456	2	123465	/	5	
6	88	<b>N</b> 1		<u></u>				142856	1	312465	3	134256	1	213456	2	1	
6	89			Z4				1342.65	1	415326	4	N43256	1	136245	1	7	
6	90		<u>_</u> '∦	21				134265	1	3/2456	3	123456	1	123465	1	6	
6	91			Z (				613526	6	453261	4	126543	1	132456	1	12	
2	09							3/2465	3	123465	1	134256	1	213564	2	7	
7	14			2				624513	6	452316	4	614325	6	251346	2	18	

Knox County

10	F	1.	TRUE	Henon Henon		Celer	EX7	A HANK	RA	RAT	SC RAT	No Sol	AN	NAT	SAR	TON	
1	m/	m /	0.756	NING	ALR C	THE	E al	LING	RE	LING HUETO	RENG	ENCE	ORE	TING TING	ORE	ACHING	1
	716				-			132465	1	425/36	4	412365	4	231465	2	11	ľ
	717	F			-	i		431256	4	315246	3	321456	3	135264	1	11	
	788							48 365	4	134256	1	345/26	3	123456	1	9	
	800							463251	4	134265	1	123456	. 1	32/456	3	9	
	801							412563	4	143562	1	145236	1	142365	1	7	
	802		****			1	100	146235	1	4523/6	4	164253	1	124653	1	7	
	803							134265	1	154326	1	123456	1	124563	1	4	
	804	F	F		F	E	-	432156	4	134256	1	214536	2	124356	1	8	
	805		Fi					4/2536	4	143526	1	145236	1	142365	1	7	
	806	H	F			100	H	413265	4	134256	1	124536	1	124563	1	7	
	807	F	H		H	2010		374165	3	134265	1	164523	1	421635	4	9	
	808	F			H			463251	4	413265	4	123456	1	312456	3	12	
1.1	809	F	m		F			421536	4	3/4256	3	123456	1	124356	1	9	
	810				F			4632/5	4	452316	4	164253	1	124653	1	70	
	822				F			421356	4	2/345-6	2	134256	//	123465	1	l°.	
13	884	7			F			4263/5	4	432651	4	45/326	4	261453	2	14	
	885	-			Ħ			432165	4	314265	3	142635	1	2/4365	2	10	
	886				H			426315	4	23/465	2	143526	(	142366	/	8	
	887						1	413265	4	132456	1	413526	4	124563	1	10	
	888				Fi			43/256	4	134256	1	Invalid	-	143562	1	-	
	889			1110				23/465	2	3/2+56	3	354/26	3	214356	2	10	
100	840	_						413265	4	4/2526		1577111	1	235 64	1	1	
	803	-						412635	4	3/2454	4	126453	,	1303	1	7	
	8072	-				<u>×</u>		23/465	2	#12354	4	147256	',	121 1126	;	8	
	093	=			E			261435	4	412356	1	142356	;	124536	',	10	
	094	-			-			4/3256	T	134256	7	134562	',	142356	,	4	
	75					<u></u>		120365	4	134625	,	135426	1	164325		7	
	897	-			100			11356	4	182456	í	126435	1	24/365	2	6	
	898				. 1997			+13156	4	24/562	2	123456	1	124365	-	0	
	Cag	=			H			762135	,	184704	1		1	124365	,	4	
ľ	900	$\Rightarrow$						142356	4	17/454	2	3 3426	3	2/4365	1	11	
1							/////	432/56	'		2	340/32	)	7303	d	11	

Knox County

1	RODE	5	IN AIENCE	AMOUNT	RECENCY	TITLE	exterio	RATING	SCO RE	RATIN	SCORE	RATIN	SCORE	RATIN	Scone	TEACH	Neode
	925				F		n	12345		13425	6 /	2345		6 10 7		to la s	
	926				ΪF	iË		46/2	5 4	25314	6 3	100 40		12354	6/	8	-
	927		Б					13520	4 1	243/5	6 2	14200	. /	12643		5	-
	928		F	-	Ē			48254	4	34521	6 2	41675	. 4	2524		1	2
	929				ίF					23/45	6 7			20 340	1	-	1
	930		F		ΪF			3		14736		1254	1	124543		17	-
	931	=			ίÞ			3 1/25 6		43/25	6 1	13376		124634	,	1	
	932							4/236	5 4	12400	17	12451		12435	Ϊ,		7
	932							45/32	6 4	1345 20	6	12945	1	147350		5	
	934		H					23/46	5 2	14236	° ′,	13106		124543			
	935	ť	F		=	-		13526	* 2	134520	1,	73426	3	147630		7	
	936		E		H			42/35	4	36/425	3	234/56	2	261457	1,	li	
	974		1.1					423150	4	132456	1	126435	1	241365	2	8	
	976							14625	1	143625	1	312465	3	134256	1	6	
	977		6		Ē			412635	- 4	164352	1	146253	1	124356	1	7	1
	978				E	-		413620	4	412356	4	142356	1	124536	1	10	
	981						E	341256	3	213465	2	314526	3	123456	1	9	
	982						1	16435	2 1	156243	1	2/4356	2	25634	2	6	
	783				E			413205	4	431526	4	145236	1	126453	1	10	
1.	985	-			H			243615	2	142356	3	123645	4	2/3465	4	5	
	986				Ħ			243/54	2	351246	3	126453	7	124653	ĩ	7	
	987				Ē			42635	4	+13526	4	152364	1	124365	1	10	
	988		EI.		E			423156	4	456231	4	134526	1	124653	1	10	
-	989							123654	1	143256	1	124635	1	123456	1	4	
	990							462315	4	423156	4	142365	1	142653	1	10	
	991							314562	3	32/456	3	153246	1	132456	1	18	
	992							43/562	4	245361	2	126435	1	34/562	3	10	
	993							412536	4	4/3156	4	135426	1	124536	1	10	
	994							134265	1	3/4526	3	132546	1	124536	1	6	
-	995	<b>1</b>	× 1					416325	4	432165	4	413526	4	214356	2	14	
	997							124356	1	314562	3	123654	1	431265	4	9	

Knox County

6006	46C	ener C	TRRINKI	TRAINT of	TITLE	of HEL	EXTENT	READING	ARTING OF	ARITHMETIC ARITHMETIC	RATING	SCIENCE	RATING	NATURAL SCIENCE SCIENCE	RATING	Composite
9	98		5/11					613245	6	134265	1	34/652	3	214356	2	12
9	99							413256	4	241356	2	354216	3	142356	1	10
10	00							432156	4	231456	2	132645	1	213465	2	9



13		p/	200	A Amo	ARC	75	of Exil	REA	SCAL	RH	SA	1850	E S	RAN	S A	12	1
/	10	m	ENCE	NIN	Par a		ELPEN	1 NO	000	TING	CRE	HT IN	CORE	ENCA	Cole	CON	1
	110					-		103		1 7		18 1	1	10 01	100	2002	TE
	200					_		4132	56 4	13425	"	42135	4	2435	6	10	2
	-07							1342	56 1	12345	"	12435	• /	2/345	6 2	10	
	205	Н						2413	56 2	124350	<u>ا</u>	12345		2343	6	3	
	206							3214	65 3	123659	1	12346	1	12345	6 1	6	1
	207							1425	36 1	1.2346	5 1	12364	5 /	14235	6 1	4	1
	214							2/430	5 2	123465	1	21534	2	123465	5/	6	
	215				iF			1/3425	21	124365	1	12345	1	2/3450	6 7	5	
	216	F	-		iF			3/4/20	3	24/356	2	142365	1	12436	51	7	
	236									2/3465	1	123465	1	12345	61	6	
	2 77	R						2334/	12	2/2//5/	3	123465	1,	123456	1	8	
	220							32145	- 3	12/201	1	31245	3	123465	1	6	
	249							23415	6 2	124356	1	123456	i	23/564	2	6	
1	263		5					12435	6 1	142635	1	123456	1	2/3465	2	5	
	264	-	F		-				2 2	314256	3	124356	1	123465	1	7	
	265							24/35	1	122445	1	125463	1	123654	1	4	
	266		H					13426	1,	12000	,	124365	1	123456	1	5	
	316		F		F			4345	4	431256	4	134265	1	214563	2	11	
	317		Fi		F			134254		134256	1	125643	1	124356	1	4	
	324		E					12436	1	234156	2	123645	1	134625	11	5	
	325				-			12645	1	365142	3	134562	1	132456	1	5	
	328						***	154236	1	134526	1	123456	1	23/436	1	6	
	220		H					24/356	2	134652	1	145362	'	12.4536	1	5	
3	331							231456	2	136425	;	123 46	'	124563	1	7	
	337							\$21356	4	134526	',	135426	1	134256	1	5	
	3 34							2/3645	12	14526	3	261534	2	351624	3	12	
	335							435126	4	3/4256	5	125246	1	124536	1	5	l
	33							23/456	2	136425	1	123340	,	34/652	3	12	
	337							456213	4	453126	T	165423	1	124563	1	4	
	130			1111				124536	ľ,	132456	',	12741.5	',	124562	1	7	
	29			1111				421356	4	134526	'		'	124251	1	6	
	Un F							314256	3	123456	/	123465	'	. 47336	,	6	
P	70					=		213645	2	134526	1	135426	1	134256	1	9	

Madison County

$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\frac{2}{8} \frac{2}{6} \frac{1}{6} \frac{2}{6} \frac{3}{6} \frac{1}{7} \frac{1}{2} \frac{1}{2} \frac{1}{8} \frac{1}{7} \frac{1}{2} \frac{1}{7} \frac{1}{8} \frac{1}{7} \frac{1}$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	6)/e	<i>m</i> / <i>5</i> /	2 PE R. 14	A RIN					RATI	D A TA		s s s s s s s s s s s s s s s s s s s	PAT	SCIE	RAT	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	<u>(u )</u>	<u> </u>	1 6		120	/ m m	1-21	1.2 2	e s	in a la	w . 2 . 2 /-	ENCE BAC		r NCE IRA L	RE	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	431256 $4$ $134256$ $1$ $315241$ $3$ $14231$ $142365$ $1$ $314562$ $3$ $125463$ $1$ $1246$ $421536$ $4$ $413256$ $4$ $134625$ $1$ $12434$ $412365$ $4$ $413256$ $4$ $134625$ $1$ $12434$ $412365$ $4$ $134526$ $1$ $13465$ $2$ $21346$ $412365$ $4$ $231546$ $2$ $134526$ $1$ $32165$ $412356$ $4$ $134552$ $1$ $134526$ $1$ $32165$ $412356$ $4$ $134552$ $1$ $154236$ $1$ $10041$ $413256$ $4$ $134526$ $1$ $134256$ $1$ $10041$ $423156$ $2$ $143526$ $1$ $134256$ $1$ $10041$ $413256$ $2$ $134256$ $1$ $10041$ $10041$ $10041$ $413256$ $2$ $324156$ $3$ $143526$ $1$ $10$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	354							134265	1	134526	/	123456	1	123465	1	T
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Stanton County

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Stanton County

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Thurston County

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	120							236154	12	23/526	2	125436	1	213465	2	17
	721	***						412365	4	123465	1'	123456	. /	123465		1
	722							142365	1	153426	1	135246	1	135462	1	4
	723							421365	4	431526	4	132546	3	123465	1	12
	724							431256	4	214356	2	123465	1	124365	1	8
	725							42/635	4	134265	1	134562	1	124356	1	7
	726				F			1221154		123465	1	132465	1	123456	1	4
	1				-		2000	23450	1	146357	,	2/3465	2	243/56	2	6
	121							194362	1,	17241-	1		-	2/42/0	7	5
	120				-			142356	1	134151	1	734326	7	215346	2	8
	730							23465	3	13/456	1	125436	1	312645	3	9
	731	7777		8888	F			11230	4	134265	ĩ	134562	1	124356	1	7
	732				F			72/635		137544	,	125436	1	123654	1	4
	772				H			123465	1,	417356	u u	134256	1	134265	1	7
	724	H	H		H			/23561	1;	1/1756	2	132456	',	124536	1	5
	715	H	H			-		146325	4	4352/6	4	134256	1	134265	1	10
	736	H	H		H			4 21 365	4	241356	2	132456	1	124536	1	8
	764							123456	1	134256	1	24536	1	213654	2	5
1	765							641235	6	134256	/	132456	1	215346	2	10
2	766							461325	4	543216	5	135246	1	126354	3	13
1.1	161							624153	6	2/4365	2	133624	',	124365	',	5
1.3	768							2/3456	1	134526	<i>'</i> ,	146523	;	113456	2	5
3	769							124356	1	143576	,	123451	'	123456	ĩ	4
	771		H		H			42536	1	32/456	3	132456	,	214365	2	7
	772				H			142 350	2	134256	1	143562	1	214365	2	6
	773	-			H			431526	4	132456	1	124563	1	213465	2	8
	774	-			F			421356	4	2436 51	2	541286	5	124365	1	12
1	775							421365	4	134296	1	345/26	3	123456	1	9
	969	-						425316	4	143256	1	153462	1	213465	1	7
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13		5	PER	TAN 2	RACEN	Teres	= FA	READ	RUTIN	ANT I	6 AL	SOCIA	in the	SCIE	RATI	TEAC
		4	122	120-		5 mm	163	16 20	m o	10 1	No No	ING	ARA	IN CE	SE G	HING
	159							324516	3	2/3465	2	23516	2	142356	1	8
	160					j 🜌		4/2356	4	145362	1	143562	1	2/3465	2	8
	16:					j 🜌		13425	6 /	24/356	2	2/4365	2	142356	1	6
	163							624135	6	415362	4	534126	5	413265	4	19
	169							324156	3	136452	1	143265	1	142563	1	6
	165							143265	1	143526	1	142563	1	124536	1	4
	171	F			-			423/65	4	421356	4	135246	1	412356	4	13
	172							421356	4	23/456	2	354162	3	142635	1	10
	174	F	F		F			462315	4	143256	1	2/3546	2	214365	2	9
	175		F					3/4256	3	314526	3	2/3465	2	124653	1	9
	176							341625	3	314526	3	341526	3	143265	1	10
	177							431652	4	134256	1	145326	1	324165	3	9
-	180							213465	2	136425	1	412536	4	124356	1	8
	198							143256	/	123465	1	134265	/	124365	',	4
	267							24/635	2	341526	3	312546	3	124635	,	9
	268							236145	2	134256	1	123456	;	126345	1	10
	269							456213	7	453/16	4	135246	1	214365	2	10
	272							3/4526	4	432/56	4	213456	2	421365	4	14
	273	E	E					3/2456	3	134256	1	2 34/56	2	213456	2	8
	275			200				416325	4	234156	2	142356	1	124356	1	8
	940							143625	1	134562	1	125436	1	124356	!	4
	941							623541	6	134256	1	146523	<i>'</i> .	56/324	-	7
18	943		5220					432/56	4	45326	7	43362	<i>'</i> .		3	14
	945							142563	1	124536	1	143265	1	43526		4
	948							432651	4	431256	4	143256	1	14365	1	10
	949	_						426315	4	134526	1	134652	1	24536	1	7
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131	P/	18	A ali	A PEC	12 21	+ 3	RE	12 0	A A	1× N	1000	19 2	1500	a D	184
10	/4	21 EWC	111	12-20		100	175	200	DNC NTH	202	TEN	COR	ALLEN	Cok	PCOCH MPos
			. 10	1	31	+	100		10.6	In a	S R L	W C	6R P	m G	220
10	6						32,465	5 3	134256	1	132456	1	142365	1	6
10	7						264315	2	412356	4	214356	2	124356	1	9
37	16		3				42635	4	314562	3	416352	4	251463	2	13
37	7		1				213465	5 2	431420	6	513246	5	124365	1	14
37	8		1F	iF			431652	4	426153	4	2534/6	2	145 362	1	11
37	9	iE	iF	iF			214536	. 2	146235	1	135462	1	421563	4	8
38	0						142365	- /	13425 6	1	143526	1,	321456	3	6
38			F				23/465	2	124365	1	213456	2	3/2645	3	8
38	2	F		F			43/526	4	2/3456	2	153246	1	143256	1	8
38	3E		i 🗖	iF	i		2/4356	2	32/465	3	234561	2	134265	,	8
382	8		1				32/456	3	341256	3	124356	1	123456	1	8
38	9						123546	1	123456	1	123456	1	241563	2	5
39	/ 🗱						543261	5	315462	3	246153	2	346152	3	13
39.	2						23/465	2	42/563	4	213456	2	241356	2	10
394	⊮□						124356	1	124563	1	123465	1	124365	1	4
395							421563	4	142563	1	51346Z	5	261453	2	12
396							341562	3	413256	4	124635	/	124356	/	9
397		1111		1.35	E		124563	1	123564	1	413562	4	124366	/	7
598	-						432156	4	314562	3	24563	2	315462	3	12
645							423615	4	132456	1	125436	1	124356	1	7
661					1		642135	6	143256	1	5/3246	5	43256	1	13
665							471265	4	134652	!	214536	2	34/265	2	3
937							142350	7	124356	1	416325	4	234156	2	8
	-							'			10325	'			-

Gratiot County

1	81	F)	1		a al	A R	17 3	2 2	100	15 NI	a a	15 0	Nov or	u A	505	R	18	
	10	m		RIEN	1		SIZ	EL EX	P. P.	SE	AT	200	ACCA	COR	ALC T	SCO	SCOT	
		$\rightarrow$	-	<u>^</u>	1º	2/2	- 1m	10	13	e le		100	Se CE	W S	SCA	18	20124	1
	40	0							42/3	56 4	134526	. 1	23/456	2	12435	. /	8	1
	40	/ 📓	ŝ,	000					4356	2 1	142563	1	123456	1	12354	6 1	4	
	40	2					i 🖻		1243	56 1	124635	1	143562	1	14325	. 1	4	
	40	3							4/320	os 4	41356	4	314562	3	15324	6 1	12	
	40	5							243/5	2	124354	1	213456	2	13526	1	6	
	400								1540	. ,	2/8454	2	122544	1	12345	1	5	
	40	7	2			F			13432	4	134265	17	321456	3	243156	2	10	
	408								1-103	4	2/4567	2	314562	3	124635	1	10	
	409								725 3		42/365	4	23/546	2	135624	1	10	l
	410			1.11			_		\$1452	6 3	123456	1,	11/2021	1,	123456	1	4	
	411			1.60	0.000				4365.	1		Ľ	12336	1			11	
	412								412350	6 4	241356	2	314256	3	2/6354	12	10	
	1		1		200				415326	4	123465	1	213546	2	241635	2	19	
	713								14365	2 /	3/2546	3	146235	/	134256	1	6	
	415								34/250	3	243/65	2	423156	4	234165	2	11	
	418								431266	4	314256	3	24/365	2	145623	1	10	
	419	100							412365	4	124653	/	316425	3	413256	4	12	
	420						777		142563	1	214356	2	124356	1	123456	1	5	
	421		iL	1.1					472/56	4	3/2456	3	214365	2	536241	5	14	
	422								415714	4	341265	3	146253	1	512346	5	13	
	423	1111			200			2222		4	241563	2	241356	2	214635	2	10	
	424	11114							3/4256	3	125346	1	123456	1	123456	1	6	
	425	1111							153426	Ĩ	123456	1	321456	3	124356	1	6	
	426	///						7/10	145326	1	213645	2	214356	2	413256	4	9	
	427						111		235614	2	132564	/	123456	1	215346	2	6	

Montcalm County .

S =	1	2 1 × 1	Hone -	Rece	coul	aTX3	RA	FA	RA	SCA DA	8800	S R	No Se Rel	RA	TOT
12		E.M.	N 14	VING VING	Le e	10 2	TING	ORE	HUKE	ORE	ATTING	TING	ALING ALING	CORE	Actin
341							142365	1	134256	. 1	143256	1	124354	1	1
343							132456	1	134256	. /	123456	1	412365	4	
345				1			426351	4	3/2 546	3	415623	4	2/6435	2	1.
346							43/256	4	134256	1	315246	3	142365	1	9
348			×				142365	1	134256	1	125346	1	124356	1	14
347				47			123654	1	243156	2	123654	1	2/6354	2	6
362							146235	1	/34256	1	132456	1	124635	1	4
365	<u>~~</u>	<b>*</b>					263541	2	135246	1	426153	4	124653	1	8
367					1		135426	1	135246	1	/25436	'	124356	1	4
369							425/36	4	423156	4	164253	2.	/23546	1	70
370				國			136245	5	136254	1	124356	1	2/3465	2	5
372							123564	1	341265	3	135426	1	123465	1	6
373							123465	1	312465	3	145326	1	124356	1	6
5/4						***	213465	2	124356	1	132456	1	3/2456	3	7

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Continuum	Assigned		Read-	Arith-	Social	Natural	
Reading	Value	Total	ing	metic	Science	Science	Tota
123456	720	127	4	19	62	45	127
123465			10	17	29	49	106
123546	708	363	2	4	8	6	21
124356			18	16	<b>2</b> 8	75	143
132456			14	30	37	12	93
123564			3	3	1	3	10
123645			3	1	4	1	10
123654			1	1	5	9	18
124365			6	6	12	56	77
124536			0	1	26	27	59
125346			0	2	3	Ó	
125436	696	508	0	4	21	8	31
132465			10	11	12	5	38
132546			2	2	5	Ō	
131256			7	82	25	7	12
142356	ł		10	7	22	26	69
143256		Į	6	22	24	10	62
124563		[	4	7	9	19	39
124635			li	3	2	21	33
124653			0	ī	1	22	2
125364		1	0	0	2	0	
125463			1	0	2	4	8
126345			3	0	2	3	8
126354			0	0	1	2	
126435			1	0	3	2	·
126453	684	422	0	0	L L	6	1 13
132564	· ·	'	2	1	Ż	0	
132645			0	4	2	0	. e
132654			0	Ó	5	0	
134265			10	14	8	9	4
134526			4	43	26	2	7
135246			3	5	16	0	2
135426		1	i	L L	13	0	118
142365			7	l i		12	2
142536			2	0	Ь	1	
143265			7	9	1 1	3	2
143526			l ż	13	21	ĺź	3
152346				ŏ l	3	l ī	1 1
152/136		1	Ō	Ō	ÍÓ	Ō	
		1	Ň	l 'i	l i	1 1	1
153216					1 4	1 1	1 (

Continuum	Assigned		Read-	Arith-	Social	Natural	
Reading	Value	Total	ing	metic	Science	Science	Tota1
Reading 125634 125643 126543 134562 134625 134652 135264 135462 136452 136455 136452 142635 142635 142653 143562 143562 143562 143625 143655 143655 143655 143625 143625 143655 145536 15326 15527 15526 15526 15567 15567 155767 155	672	181 181	1ng 00020011202021115233001100	metic 0 1 0 6 6 6 0 2 1 2 7 1 2 1 0 2 1 0 0 1 2 0 0 1 2 0 0 1 2 0 0 1 2 1 0 0 1 0 6 6 6 6 0 2 1 2 7 1 2 1 0 0 6 6 6 6 0 0 1 0 0 6 6 6 6 0 0 1 0 0 6 6 6 6	Science 0 2 13 3 2 3 8 1 2 0 4 5 2 0 4 5 2 0 2 8 8 1 2 0 4 5 2 0 2 8 8 1 2 0 4 5 2 0 2 0 4 5 2 0 2 0 2 3 8 1 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2	Science 4 2 3 0 2 1 2 1 2 0 2 0 2 0 1 2 0 2 0 1 2 0 2 0	10ta 45521 1962641190747412373510
$\begin{array}{c} 105224\\ 135624\\ 145263\\ 145362\\ 146235\\ 146325\\ 146325\\ 146352\\ 152634\\ 152634\\ 154263\\ 154362\\ 164235\\ 164253\\ 164253\\ 164352\\ 164352\\ 145632\\ 145632\\ 146523\\ 146532\\ 146532\\ \end{array}$	660	53	0102020000010110002	001150110000000000000000000000000000000	205822011101204000040	1 0 2 3 0 1 1 0 0 1 0 0 0 0 1 0 0 0 0 1 0	

Continuum	Assigned		Read-	Arith-	Social	Natural	T
Reading	Value	Total	ing	metic	Science	Science	<b>Tota</b>
154623			0	0	1	1	2
154632	648	80	0	0	1	0	1
156234			0	0	1	0	1
156243			0	1	0	0	1
156423			0	0	2	0	2
164523			0	0	<u>ь</u>	0	<u>ь</u>
165/123			Ō	Ó	Ż	Ō	Ż
213465			11	11	15	19	59
213/165			9	<u> </u>	11	19	<u> </u>
213546			ĺí	2		Ó	7
21/1356	636	117	9	8	1 7	16	hộ
231/156			110	11	l i	5	27
213561		<u> </u>	2	1 1	<del></del>	5	
213645			6		Ĩ	1 7	1)
213651			Ĩ		ō	2	1 1
21/1365			7	Ĭĭ		20	1 201
21/526			2		1 1	20	
214250	621	172	0	Ö	4	2	
215/26	024	116	Ŏ			2	ž
2211450							21
221616						4	6
231340							21
234150							24
243501			2	1 4	4		20
243150			0	<u> </u>	<u> </u>	2	<u> <u> </u></u>
214503							15
214635						10	L T L
214653			2		0	4	
216345		1	2		0		4
216354			0	0	0		
216435	612	86	0	0	0	4	4
231564			0	1	0	1	2
231645			2	0	1	0	3
234165			1	4	1	5	11
235146			0	1	0	1	2
241365			4	0	1	7	12
241536			0	0	0	3	3
243165			0	1	0	4	5
251346			0	1	0	2	3
253146			11	1	0	0	2
253416			1	1	1	0	3
215634			0	0	0	2	2
234615			11	0	0	0	1
234651			2	0	0	0	2
235164			0	0	2	0	2
236145			3	Ō	0	0	3
236154			2	1	0	0	3

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Continuum	Assigned		Read-	Arith-	Social	Natural	
Reading	Value	Total	ing	metic	Science	Science	Total
241563 243561 243561 243615 243651 245136 251364 251463 251463 254136 254136 261345 261453 261453 263415	600	50	011000000000000	20002231101010000	000000000000000000000000000000000000000	2200000110000030	4411223261111242
235614 245163 245361 246135 246153 246315 251643 263451 264315	588	15	100111022	0 2 1 0 0 1 1 0 0	0 0 0 1 0 0 0 0	0 0 1 0 0 0 0 0 0	122122122
246531 256341 265413 265431 312456 321456	576	65	1 0 1 0 11 4	2 0 2 19 4	0 0 0 6 6	0 1 1 0 6	3 1 2 2 40 17
312465 312546 314256 321465 321546 324156	564	79	514321	6 3 22 4 0 7	2 4 3 1 1 0	3 1 5 0 0	16 9 30 13 3
312564 312645 312654 314265 314526 315246 315426 321645 321654	552	104	002350020	2 0 1 10 12 1 2 0 0	0002240000	0 0 1 2 0 0 0 2	2 2 3 16 21 5 2 2 2 2

Continuum	Assigned		Read-	Arith-	Social	Natural	
Reading	Value	Total	ing	metic	Science	Science	Total
324165			3	1	0	3	7
324516			1	0	0	0	1
325146			0	1	0	0	1
325416			0	3	0	0	3
341256			10	Ĺ	6	2	22
342156			5	7	3	Ō	15
314562			- î	5	2	1	
311.625			ī	í	1	ō	3
315162			ō	ī	1	Ĩ	1 1
316/25	Į		õ	2	1		, j
216422			Ň	J I	1 0	ŏ	4
221.561			1	I O	0	0	1
			1	0	0		
325104	51.0	0	L L	0	0	0	
325401	540	04	0	L	0	0	
326145	]		L L	0	0	0	<u>+</u>
326154			2	L	. 1	0	4
326415			1	0	0	0	1
341265			1	8	0	4	13
341526			1	6	2	1	10
342165	-		1	1	0	3	5
342516			1	2	0	0	3
351246			0	0	0	2	2
341562			2	1	2	1	6
341625			4	3	0	0	7
341652			o i	Ō	l	2	3
3/2561	528	31	1	0	1	0	2
31,2615		-	Ō	i	1	Ō	2
31,51,26			Õ	ō	ī	Ŏ	ī
31,5216			ĩ	2	0	õ	3
2511.62			1	2	ĩ	Ŏ	2
251,126				0	2	0	2
254120				0	2	0	1
354210				0		0	
301425				1	0	0	1 1
202124	<b>_</b>		<u>⊢                                    </u>	<u> </u>	<u> </u>		┝╌╴╪┥
345162			U U	U O	1 I		
340152			v v	0	L L	L L	
351624	1 210	7	2	0	0	0	2
354162			0	0	· 1	0	
364251			1	0	0	0	1
356241			0	0	0	1	1
365124			0	0	0	1	1
365142			0	1	0	0	1
365214	504	117	0	0	0	1	1
L12356			13	9	0	10	32
113256			17	10	0	3	30
1,21356	1		17	<u>Г</u>	3		27

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Continuum	Assigned		Read-	Arith-	Social	Natural	
Reading	Velue	Total	ing	metic ··	Science	Science	Total
423156			13	9	2	0	24_
412365 412536 413265 413526 421365 421536	492	167	20 7 18 4 12 7	2 2 2 5 2 2	521510	4 0 1 1 4 1	31 11 22 15 19 10
423165 423516 431256 432156			4 2 17 15	0 0 13 5	0 0 1 0	0 0 2	4 2 31 22
412505 412635 413562 413652 413652 415236 415326 421563 421653 421653 4223651 423651 425136 425316	<b>480</b>	105	<b>180203212115194</b>	107010710000050	000000000000000000000000000000000000000	000000000000000000000000000000000000000	48.421~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
415362 416235 416253 416325 425361 425163 425361 426135 426153 426315 426315 431625 431625 432615 432615 432615 432615 435126 435216 435216 435236	468	101	01270210413112242022	1001000120001102451	3 1 1 1 0 0 0 1 0 0 0 1 1 0 0 0 0 1	000000000000000000000000000000000000000	42591212633124544474

$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Continuum	Assigned		Read-	Arith-	Social	Natural	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Reading	Value	Total	ing	metic	Science	Science	Total
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	452316			1	0	0	0	1
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	452316			1	7	ō	Ō	8
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	153126			ō	ι ή i	Ő	ň	۲ ۲
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641235	1		4	0	0	0	4
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642153			2	0	0	0	2
643215			4	0	0	0	4
635142	324	3	0	1 1	0	0	1
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