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THE

HIGH SCHOOL TEACHER'S LOAD

IN MONTANA

by

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B.A. Intermountain Union College
1931

Presented in partial fulfillment
of the requirement for the
degree of Master of Arts.

Montana State University

1936

Approved:

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Much credit is due the teachers, principals and superintendents, representing thirty-three schools, who made this study possible. They, though hard at work, gave enough of their time to furnish the necessary facts. To Dr. Freeman Daughters, my advisor, and to Dr. W. R. Ames, both of the University of Montana faculty, I wish to confer my thanks for much valuable and constructive criticism. The able and willing assistance of the members of the University Library staff is also greatly appreciated.

To my parents and Dr. Ida M. Yates of the faculty of Intermountain Union College should go considerable credit for my original inspiration and interest in my chosen field of education. Finally to my wife, I wish to express my appreciation for her patience and assistance in typing the original copies of this thesis.

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INTRODUCTION

In the interest of every person related directly or indirectly to the school, the teacher, whether in the kindergarten, elementary grades, high school or college, should not be subjected to an excessive teaching load. Efficiency, accuracy and ease of any task are greatly affected by continuous performance. Industry has taken this fact into consideration by establishing the eight hour day wherein one can perform tasks with much greater skill due to the lack of fatigue. Educational men should realize that they, in the interest of themselves, the school, and all, should standardize the teaching load and thereby achieve an efficiency supported by methods of business. These methods are but the application of the same practical psychology taught in schools but not always applied by teachers.

Many people view the teaching profession as a job, beginning at nine o'clock in the morning, ceasing for an absolute hour at noon, and then continuing until four o'clock in the afternoon. Then it suddenly comes to an end for the day. Summarized, "the teacher has an easy job, merely a six hour day for five days a week" while others sweat and toil for at least 48 hours a week. Anyone who adopts such a superficial attitude and regards the other person's job as "easy" should have some basis for understanding. Such an

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attitude serves as an additional reason for this study.

For the past seven years the teaching profession has been battling against depression. Wages have fallen, materials and equipment are only partially available, tax returns are smaller because of reduced property valuation, many schools are overcrowded, and the teaching load of the high school teacher seems to be increasing. Studies have been made on various phases of the first four of these problems but the subject of the teaching load has heretofore not been investigated in Montana. This study should be of some value to administrators, school boards, teachers, and patrons who are interested in improving the schools and equalizing the teaching burden.

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CHAPTER I.

THE PROBLEM OF THE HIGH SCHOOL TEACHING LOAD

Why the Problem was Selected. At the time of the selection of the subject, the author's teaching load consisted of five classes per day averaging between 20 and 30 pupils each for five days a week. In addition to this there was at least one regular assembly period per day. Other duties included coaching basket ball, football, baseball, track, and boxing. This enumeration does not include everything. During spare time, the writer began to reflect, usually late at night, concerning the situation. This reflection constitutes one reason for the choice of this problem. This interest in the teaching load has grown because it fits well into the field of administrative work.

A second reason for the selection of this problem was to clear up the misunderstanding regarding the length of the teacher's working day. The final reason for the choice of this study was to increase the interest of administrators in a vital problem that has been neglected by many of them.

The Purposes of this Study. The major purpose of this study is to give those interested a foundation for an understanding of the average teaching load. This will be done by establishing objective averages and analyzing constituent factors of the load. This analysis of factors has been made to find standards for class periods taught per week, duplicate

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preparations, number of pupils in classes per week, period length practices, number of classes taught, subject combinations, different subjects taught, and time spent in co-operations. The types of cooperations are: study hall supervision, teachers' meetings, community activities, correction of papers, preparation for class periods, hall duty, physical education classes, coaching athletics, dramatics, administrative work, extra curricular music, and supervision of student activities.

Other parts of this study will deal with the following: (a) factors which those answering the questionnaire felt to be the cause of a heavy teaching load; (b) answers to the question asked as to whether the teaching load was heavier during the year 1934-1935 than it was the previous year; (c) a comparison of the large and small school; (d) the sex of teachers reporting; (e) subject coefficients of difficulty; (f) a comparison of the teaching loads of men and women; and (g) subject combinations.

One chapter of this thesis is devoted to a comparison of the results with those of other studies. The final chapter contains a discussion of the need for studying the teaching load, the formula which may be used, a description of the average teacher, and suggestions for reducing the teaching load in the face of existing conditions.

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The Definition of the Teaching Load. The teaching load is defined as a series of units each of which is equivalent to the teaching of a class, which requires preparation for one period of 45 minutes, in which there are 20 pupils. It is assumed that the teaching load is not too abstract a thing to be measured but can be measured as surely as distance.

The measuring unit and consequently the foundation for this study will be the formula of Harl C. Douglass.[1] This formula will now be explained.

The Formula[2] and its Explanation.

$$TL + \left(CP - \frac{20up.}{10} - \frac{(NP - 20CP)}{100} \text{ A } \frac{PC}{2}\right) \frac{(PL - 55)}{100}$$

TL, as previously explained, is furnished in units each of which is theoretically equivalent to teaching one period, a class which requires preparation, in which there are 20 pupils and which meets for 45 minutes. It can be placed on a per day basis by dividing by five.

CP represents the number of class periods per week. For double period classes count each half as one period,

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1. Harl C. Douglass, Organization and Administration of Secondary Schools, Ginn and Co. Boston 1932, p. 115.

2. Douglass, op. cit. p. 115.

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(e.g., a class in biology having two laboratory periods besides the five regular recitation periods would count as 7CP). The additional teaching load resulting from large classes is, "expressed in terms of the teaching load incidental to one section of normal size by counting each 100 pupils met daily, in excess of a normal load of 20 pupils per section, as equal to the load resulting from teaching one section of normal size. For example, of two instructors, one teaching five sections a day averaging 42 pupils each and the other teaching five sections averaging 22 pupils each, the former is assigned a load greater than that of the latter by one daily section requiring preparation:

$$\frac{1050 - 500}{100} - \frac{550 - 500}{100}$$ 5 class periods a week."[3]

Dup., as it implies, represents the number of class periods spent in the classroom teaching classes for which the preparation is very similar or duplicates that for some other section. Three classes of English I would then include two duplicate preparations. In duplicate preparation the amount of work for the second, third or more sections is considered as being reduced 20% if the preparation is the same for all. This then assumes that the second preparation requires four-fifths times as much as the original class.

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3. Douglass, op. cit., p. 117.

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NP is the number of pupils in classes per week. Each double period should count as two periods. The second half of the double period should be listed as one period of duplicate preparation in Dup. The number of pupils should be counted for each half of a double period. (e.g., a biology class of 20 students meeting five times a week for recitation and twice a week for laboratory would count as 140 pupils per week).

PC represents the number of periods spent per week in such cooperations as study hall, supervision of student activities, community activities, teachers' meetings, administrative or supervisory work, physical education, extra-curricular music, preparation for class periods and correction of papers. Two periods spent in cooperations are counted as the equivalent of teaching one normal class for one day.

PL is equivalent to the gross length in minutes of class periods. "Increasing the length of the class period by ten minutes would increase the class load by one-tenth, twenty minutes, by one-fifth, etc."[4]

Factors not Measured in this Study. Several other factors which might be included in measuring the load are suggested in other studies on this subject. It is doubtful just what procedure one would use in measuring such items

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4. Douglass, op. cit., pp. 115-118.

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as class personality or teacher ability. Douglass[5] suggests tractibility, range of individual differences in ability of the pupils, etc., but he suggests no way of handling them. Age and maturity of pupils is a factor which is seldom taken into consideration. Just how they could be handled in adjusting the teaching load of the high schools studies is a question which could meet with a variety of answers. Because of their intangibility, and also because such factors are difficult to measure, they are not included in this study.

Formulae Used in Other Studies. Brown and Fritzmeier[6] have a formula by which they compute a unit called the subject load: namely, subject weight times length of the period in hours, times the number of pupils. They add the total relative subject load per subject, and then add to the loads the respective percentage of increased difficulty caused by the number of separate teaching fields. This formula involves a considerably greater amount of arithmetic and when the conclusion is reached you have an abstract sum called the subject load. The figures in such studies, too, would be so large as to be cumbersome in practical usage. Such

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5. Douglass, op. cit., p. 115.

6. L. H. Fritzmeier and E. J. Brown, "Some Factors in Measuring the Teacher's Load" Educational Administration and Supervision, (January 1931) XVII, pp. 64-70.

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studies as Baer,[7] Davis[8] and Anderson[9] enumerate factors similar to those used by Brown and Fritzmeier. The formulae of these studies were discarded because they were neither as comprehensive nor as practical as the Douglass formula.

Building the Questionnaire. Using Douglass' formula previously mentioned, a questionnaire* was made. This questionnaire was not original as many friends and advisors contributed their ideas. The completed introductory letter, and the questionnaire were sent to my advisor, Dr. Freeman Daughters, for criticism. Fellow faculty members tried out the questionnaire and after revision it was ready for mailing.

Scope of the Study. Three hundred and fifty questionnaires were sent to all high school teachers in 65 Montana high schools. It was hoped that these with careful planning would bring in the 200 completed questionnaires set as the original goal for this study. The returns included answers

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7. Joseph A. Baer, "Teaching Loads in Junior and Senior High Schools in Largest Cities" Educational Research Bulletin of Ohio State University (Feb. 16, 1927) Vol. VI pp. 73-75.

8. C. O. Davis, "Size of the Teaching Load in the High Schools accredited by the North Central Association" School Review, (June, 1923) Vol. XXXI, pp. 67-70.

9. E. W. Anderson, "The Teaching Load of the Beginner in High School" Educational Research Bulletin of Ohio State University, (Oct. 3, 1928) Vol. VIII, pp. 280-281, 291-292.

*See page

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from 33 different high schools. The complete staff in 30 schools answered. This information has come from 168 teachers. An attempt was made to select representative schools. The map between pages 11 and 12 indicates the high schools participating. At the same time it was planned to include as many superintendents and principals as possible who were acquaintances of the author. Many of these acquaintances did not send back the questionnaires and the return from the other schools was approximately the same as from them.

Letters sent to the principal or superintendent of each school* pointed out how he could handle the subject in a regular teachers' meeting, thereby benefitting both himself and the teachers. It was thought that a higher percentage of return could be secured. Several principals manifested their interest by furnishing additional information and making comments** on the subject. The letter to the principals explained in detail the more difficult points of the questionnaire. It also asked the recipient to be sure to note that the study was to be made on a per week basis.

Every effort was made to make the questionnaire as objective'and easily answered as possible. The only subjective and variable factor entering into the estimate of the

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*See sample letter p.___
**See appendix pp.____
'See questionnaire on page____.

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teaching load was the estimation of cooperations by teachers. This material concerning cooperations was unavailable except from the teachers themselves.

An introductory letter* presented the study to the teachers and enumerated its purposes. Only the questionnaire sheet was to be returned. Follow-up cards were sent to at least ten schools but with little result.

The data thus received were tabulated and classified under the heading suggested in the questionnaire. The findings will be discussed and compared in Chapter III of this study.

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*See sample letter of introduction to teacher on page____.

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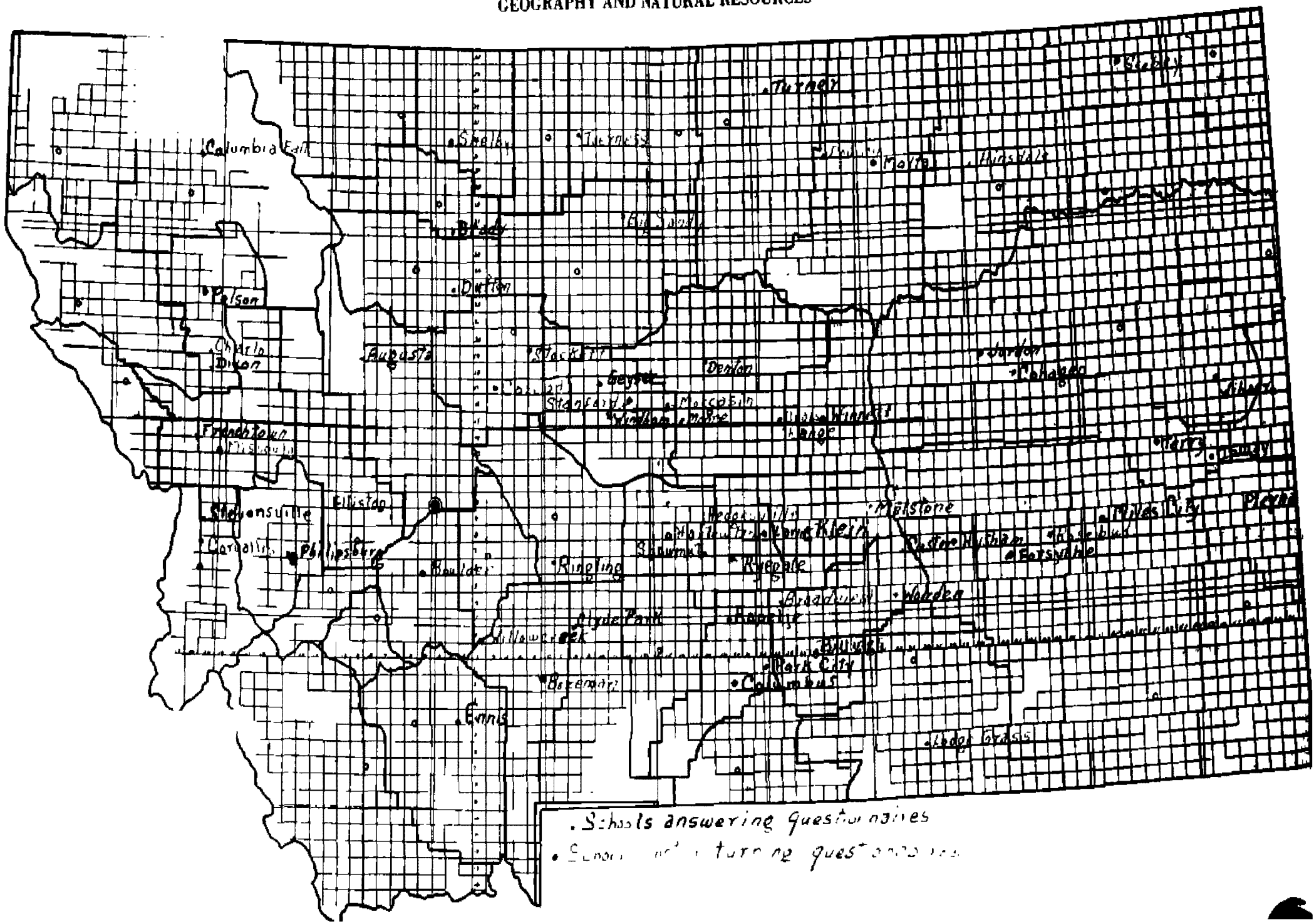
OUTLINE MAP OF MONTANA

GEOGRAPHY AND NATURAL RESOURCES



CHAPTER II

STUDIES OF THE TEACHING LOAD

Early Studies. By glancing back to 1917, we can see the problem of the teaching load in its growth and trace it through representative studies to the present time. The United States Office of Education[10] in its annual report in 1917-18 reported that the average teaching load in all city schools was 35.6. This figure was derived by dividing the number of pupils by the number of teachers.

Davis[11] says that in 1917 over fourteen percent of the schools had a ratio of teachers to pupils of one to fifteen or fewer; forty percent had a ratio of one to twenty; thirty-six percent had a ratio of one to twenty to twenty-five; seven and eight-tenths percent had a ratio of from one to twenty-six to thirty; while .76 percent had a ratio of more than one to thirty.

In 1918, Bliss[12] reported the average teaching load in twenty-two cities as 32.4 pupils; for high school teachers

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10. E. T. Peterson, "Teaching Load" in Review of Educational Research Vol. I, pp. 92-98 (April 1931).

11. Calvin O. Davis, "Our Secondary Schools" North Central Association Bulletin, 1925. pp. 25, 28, 38-39.

12. Peterson, op. cit., p. 93.

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the median was twenty. He reported from a study in Kansas the following safety zones in numbers: Latin 14-19, history 17-23, science 16-22, commercial subjects 15-23, mathematics 18-24, etc. How he derived these standards was not given. Babson[13] reported ranges of "teacher load" per day for various subjects in which the numbers ranged from 65 to 160 pupils per day and 25 to 40 classes per week. These were standards followed at that time by the principals in Los Angeles, California.

Teacher Load Survey in 136 Schools.[14] In the spring of 1922, a committee from the faculty of the Polytechnic high school of San Francisco, California, made a survey of 136 high schools. They found that the average number of pupils per week was about 600, and the average length of periods was 45 minutes. In addition to this they studied the number enrolled in the high school, the number of teachers and clerks and the length of the school year. These, they averaged and called the teaching load.

Davis,[15] from his study in 1925 of 1571 public schools, found that less than one percent of the academic teachers

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13. Peterson, op. cit., p. 94.

14. United States Department of the Interior, Bureau of Education, "Teaching Load in 136 City Schools" City School Leaflet, No. 9, Washington, D. C. Printing Office (1923)

15. Davis, op. cit., pp. 28, 38-39.

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are violating the North Central Associations standards for accrediting, regarding the number of classes to be taught. Twenty-seven and six-tenths percent were teaching fewer than five classes daily and 53.6% were teaching exactly five classes a day. Montana was one of the few states not violating the standards of the Association regarding the number of classes to be taught by one teacher. The standard of 160 pupils per teacher per day, in classes was set by the association. It was found that 88.1% of the teachers taught fewer than 150 pupils daily. In both classes and number of pupils daily, men had lighter teaching loads than women. The association made no absolute prescription respecting the size of classes. It has been held, however, that classes numbering over thirty are dangerously near the maximum line. In comparison with these recommendations, he found that 26.4% of all academic classes enroll under 20 pupils; 32% enroll from 20 to 25 pupils; 30.9% enroll from 26 to 30 pupils; 10.6% enroll in excess of 30 pupils. The differences in the loads of men and women were not noticeable. His study of the amount of time spent by principals in supervision showed that the time varied from 30 minutes daily to over 120 minutes daily.

In 1927, Diamond[16] reported a study of Industrial Arts teachers in Michigan; computing in clock hours he found the

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16. Peterson, op. cit., p. 94.

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median was 25.7. Class size varied from 17 pupils to more than 53 pupils. Principals, asked the size of ideal classes, varied from 25 to 40 in their answers.

In 1926, Lewis[17] by the use of questionnaires sent to 270 superintendents in Michigan found the median class size for grades seven, eight and nine was 32.8, and for the three remaining years of high school 32.8. This study was based on the opinions of the superintendents reporting.

In 1929, Walker and Laslitt[18] reported the distribution of the working time of three teachers in a small high school to be an average of eight hours and forty-five minutes per day in strictly school work and two hours and forty-eight minutes per day in extra-curricular activities.

In 1920, as the result of an investigation by Cook,[19] the North Central Association for accrediting schools and colleges recommended median class size of from 23 for large schools to 19-24 for the smaller groups of the approved schools.

In 1930, Huddleson[20] found that teachers of Minnesota approved small classes although he felt that their attitude

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17. Peterson, op. cit., p. 93.

18. Ibid., p. 95.

19. Ibid., p. 95.

20. Ibid., p. 96.

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toward large classes was largely personal. Later he and McGuire found that for all classes the large classes led on every measure of achievement.

In 1930, Tritt[21] conducted a subjective study and established difficulty coefficients based on the opinions of ninety-one faculty members in Belmont High School, Los Angeles. This plan has been improved and is well recognized at this time.

In 1927, McMullen[22] carried on a study at the Teachers' College of Columbia University of the service load of teacher training institutions. His conclusions are of interest by way of comparison. He said that, (a) the total service load should be considered and made as equal as possible in assigning work to full-time teachers, (b) the practice of stating class hours per week should be continued, (c) the variation in the service load is enormous, and (d) the hours expended in daily preparation show a wide range.

Of specific interest, because they present a better sampling of closely related studies are the following summaries. They represent a building-up of the idea of the

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21. Tritt, W. W. and Keys, M. M., "Estimating Teaching Loads by Means of Subject Coefficients" The Nation's Schools Vol. V. (April 1930) pp. 61-65.

22. Peterson, op. cit., p. 96.

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teaching load which is nearer to that of H. R. Douglass. Some of them vary greatly, but the general tendency is toward a more comprehensive view.

Davis,[23] in 1923, in his study of schools of the North Central Association entitled "The Size of Classes and the Teaching Load", says that there is no connection between size of class and efficiency of instruction as measured by pupils' grades. Using grades as the only standard limits the value of this conclusion. He also concluded that teachers prefer middle-sized classes and said that the North Central Association was not justified in limiting class size to thirty pupils.

According to him, the most important determinants of the teaching load are: "1. the personality of the class, 2. number of different preparations daily, 3. number of classes taught daily, 4. the amount of clerical work connected with the teaching process, 5. extra-curricular and extra-class room duties, 6. social and civic demands." He said that the teaching load should be adjusted on as scientific a basis as possible but with reference always to the ability of the individual to carry the burden. Davis's Schedule of a Teaching Day based on his reports is included in Chapter VII of this study. He concluded finally that

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23. C. O. Davis, op. cit., pp. 412-429.

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promotions should be based on the size and importance of the teaching load.

In Baer's[24] 1927 "Study of the Teaching Loads in Junior and Senior High Schools in the Largest Ohio Cities", he uses as his premise the pupil-clock-hour. The number of pupils in a class times the number of recitations per week times the length of the class period divided by sixty, gives the number of pupil clock hours. The sum of the pupil-clock-hours for all classes carried by the teacher is that teacher's total pupil-clock-hours. An effort was made to include only full time teachers in order to secure accuracy. The range is from 200 to 1250 pupil-clock-hours with a median of 544 for the men and 506 for the women. On this same basis the separate subjects are taken and medians are computed for each. One of his conclusions is that persons teaching music and art have the heaviest loads. The author concluded that his study does not tell the whole story. He has omitted some very important factors in the teaching load. These are the amounts of time required for cooperations and extra-curricular work, such as study halls, advising, community activities, music, art, athletics, and the external work needed on any subject such as correction of papers,

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24. Baer, op. cit., pp. 73-75.

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preparation for class, etc. The listed ones are but a few of the unmeasured factors. The study does show an unreasonable variation in the unit, the pupil-clock-hour per teacher.

In 1927, Fitzpatrick and Hutson[25] studied the daily teaching programs in 69 Pennsylvania high schools and 39 California high schools. The studies of Woody and Koos[26] in 1919 in the state of Washington and the study of the College of Education[27] of the University of Minnesota in 1923 were also used for comparisons. They found that the tremendous growth of secondary educationhas resulted in the establishment of many small high schools, the introduction of many new subjects, and the problem of single subject assignments to teachers. Overexpansion of the curriculum and the tendency toward single-subject-teachers conflict most in the small high schools. This situation results in a lack of efficiency in subject scholarship, teaching efficiency, and the efficiency of the small school system. Emphasis in training teachers should be upon the two or three subjects

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25. Edward A. Fitzpatrick and Percival W. Hutson, The Scholarship of Teachers in Secondary Schools. New York 1927 Section I, pp. 3-13, and Section II, pp. 6-32.

26. L. V. Koos and Clifford Woody, "The Training of Teachers in the Accredited High Schools of the State of Washington" Eighteenth Year Book (1919) pp. 215-257.

27. "Training of the High School Teachers of Minnesota", Educational Monograph No. 3. Minneapolis: College of Education, University of Minnesota, (1923). Not available in library.

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that they expect to teach. This involves a mastery of subjects adequate for teaching them in school. Professional training should be carefully related to these subject majors and minors.

In the Minnesota study, it was found that in the smallest school 50% of the teachers teach four or more different subjects. In the largest schools two-thirds of the teachers teach either one or two subjects. There was a distinct mode at four subjects in the smallest (three and four-teacher) schools and a distinct mode at two subjects in the schools having five and six teachers. California has more subjects per teacher than Pennsylvania and Minnesota but she compensates for the difference by having fewer small high schools. A study of teachers according to the number of different subjects they have taught during their career revealed a range from one subject to more than ten. The percentage of teachers who have taught three subjects varies from 76 to 82%. For those who have taught five or more subjects the range was from 35 to 45 percent. This indicates a chaotic and undesirable condition which is detrimental to the scholarship of both teachers and pupils. In the three and four teacher schools there seemed to be a marked tendency toward six classes per day. The tendency in the larger schools was toward a four class day; this increased as the size of the school increased.

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4. The analyses of subject combinations reveals practically no standardization but such a chaotic situation as to render too difficult the adequate preparation of teachers.
5. In 3 and 4 teacher schools, all subjects appear so frequently in combination with four or five other subjects as to make it difficult to see how they can be taught efficiently.

Their recommendations for clearing up the situations discussed are: (1) elimination of the small high school, (2) formation of definite standards of preparation for teaching subjects, (3) training teachers to teach not one subject but at least three, (4) standardization of subject combination, and (5) the reorganization of small schools on the six-six plan.

In 1930, Nuttall[29] made a study of the "Teaching Load in the Small High Schools of Utah" and concluded that teachers spend between 27.25 hours and 46.75 hours per week at school work. Teachers in small schools did not spend as much time on school work or in class rooms as those working in larger schools. Teachers in small schools had a heavier study hall and extra-curricular load than teachers in large schools. The amount of time spent in the small schools in administrative duties was small and tended to decrease with

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29. James A. Nuttall, A Study of the Distribution of the Teaching Load in the Small High Schools of the State of Utah. (May 1930) Master's Thesis, Brigham Young Univ. Provo, Utah.

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school size. He gave no definition of school work nor did he establish any definite average working time in his study. He recommended equalization of work, and more definite extra-curricular assignments. He advised that small high schools increase the classroom work of their teachers; many would suggest a decrease. One of his final recommendations was that a survey be made of study hall supervision and of what students do in study halls. The latter might prove rather enlightening to some unobserving teachers.

In 1931, Brown and Fritzmeier[30] in their study in Kansas entitled "Some Factors in Measuring the Teaching Loads" listed five factors to be considered:

> "1. The relative difficulty in teaching different subjects
> 2. The number of pupils in class.
> 3. The number of different preparations demanded of the teacher.
> 4. The number of different fields in which the teacher works.
> 5. Some recognition of the extra-curricular load."

They then submit the following formula:

> "1. Subject weight (or activity weight) times length of period in hours, times the number of recitations per week, times the number of pupils, equals the subject load.
> 2. Having the weekly subject load for each subject add to determine the total weekly subject load.
> 3. Add to this total subject load the respective percentage of increased difficulty as influenced by the number of daily preparations and

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30. Brown and Fritzmeier, op. cit., pp. 64-70.

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the number of separate teaching fields."

While the authors admitted that their plan was subjective and little more than a guess they approached the formula chosen for this study. Their conclusion was that the study of the problem by both superintendent and teacher should find an improved moral tone. In this they should find hearty agreement.

In Crofoot's[31] study in 1931 of the schools at Bremerton, Washington, the average time spent by all, who kept a record for three weeks, at various times during the year, was 48 hours and thirty minutes per week. The range was from 48 hours and 23 minutes to 56.53 minutes. Clerical assistance would be of great help in relieving part of the overload due to correction of papers. The lowest average length of time spent was equivalent to the working day of a layman and the median was equivalent to the working day of eight hours. The estimates are somewhat high as the average teaching day set by other studies is just over the eight hour day for a five day week.

P. W. Hutson[32] wrote concerning "A Neglected Factor in the Teaching Load". The neglected factor at the time of

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31. Mentha Crofoot, "The Amount of Time Spent in Schoolwork in Terms of Teacher and Pupil Hours" Educational Administration and Supervision, Vol. XVII, pp. 446-452 (September 1931).

32. P. W. Hutson, "A Neglected Factor in the Teaching Load" School Review Vol. XXXX pp. 192-203 (March 1932).

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this study was the class size; this educational leaders have recognized. It is now included in all formulas for measuring the teaching load. Hutson enumerates all the factors used in this study with the exception of cooperations. His study of pupil-recitation-hours, which are about the same as the number of pupils per week (NP) in this study, is of interest. The range was from 137 to 1,215 and the median was 752.5 per week.

Formula:

$$\frac{\text{Number of pupils met a week}}{\text{Number of times met a week}} \times \frac{\text{Total number of periods comprising teachers weekly load}}{\text{Total number of periods a week devoted to this group}} =$$

Teacher-pupil contact quotient.

Douglass and Saupe,[33] in their survey in 1935 of "The Professional Load of the Teachers in the Secondary Schools of Iowa," used data from the files of the State Department of Public Instruction and from the replies to questionnaires sent to principals and superintendents of a selected group of high schools. They found that teachers in small high schools taught an average of 4.2 periods more a week than the teachers of larger schools. Almost one-fourth of the teachers in the larger schools taught as many periods as the teachers in small schools. Teachers in mathematics and foreign languages were usually assigned five periods per day. Teachers in small schools have about twice as many subject

33. Harl R. Douglass and Ethel M. Saupe, "The Professional Load of the Teachers in the Secondary Schools of Iowa" School Review, Vol. XXXXIII pp. 428-433 (January 1935)

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preparations. The small schools spend five periods per week on study hall duty, the large school about three. The large schools teach many more pupils per day than the small school but both have a great variation for teachers in certain subject fields. Difficulty coefficients were used, namely: 1.1 for English, science, history and social studies; 0.9 for all laboratory subjects, such as household arts, manual arts, industrial arts, bookkeeping, and typewriting; 0.8 for music and physical education and 1.0 for all other subjects. Teaching loads of large schools were slightly higher, the median for them being 28.6 and the average 28.7 while the small and medium-sized schools had a median of 28.4 and a mean of 28.2. In the cooperations listed (study hall, libraries, and home rooms) the small school spent considerably more time. The teaching loads in different fields do not vary greatly. The differences are much less than those in the upper and lower quartiles. No noteworthy differences were found in the teaching loads of men and women.

It is doubtful whether the time spent in cooperations is inclusive enough in his study. From the study they seem to have indicated only the in-school pooperations and these estimates are made by the principals. The out-of-school cooperations require much more time than the in-school ones. This may account for the considerable variations in the final averages of this study and that of Douglass and

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Saupe.

In the Minnesota study, which Douglass made in cooperation with Quanbeck[34] in 1935, his formula was again used with the difficulty coefficients. The coefficients were practically the same as those previously mentioned in the study by Douglass and Saupe. One hundred and twenty-nine schools were studied. Schools were divided into three classes according to size: those of 30 to 74 pupils; those of 75 to 200; and those of 200 or more. There was a marked variation in the average load, independent of school size. The upper quartile was 20% greater than the lower quartile for each group. The range of time spent on cooperations was .78 to 4.96 units, muchless than the result of the author's study. Men on the average had a slightly heavier teaching load which was due to the fact that they handled more cooperations. Teachers in schools not accredited by the North Central Association carried a load greater on the average by seven percent. Beginning teachers taught heavier loads, being specifically ten units more than those who were experienced. Principals of smaller schools had teaching duties which are certain to interfere with their administrative duties and opportunities. Thirty percent of these principals had as great a teaching load as the average

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34. M. Quanbeck and Harl R. Douglass, "Teaching Loads in High Schools" Nation's Schools, Vol. XV. pp. 37-39 (Feb. 1935) Douglass and Saupe, op. cit.

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teacher. The average teaching load for all teachers was about 28.09, and the range was from 19.13 to 33.43.

"The Teacher's Working Day" by Stuart Dean[35] includes a study in 1936 of 500 public school teachers of Newton, Massachusetts. Its purpose was to determine how long they work daily and what form their work takes. The average time spent in cooperations was four hours and fifty-four minutes. The total work day was eight hours and forty-two minutes. The time spent in school was seven hours and thirty-one minutes. Actual teaching time was three hours and forty-eight minutes, or 43.7%; duties related to teaching was three hours and nineteen minutes, or 38.1%. Routine duties, etc., averaged one hour and thirty-five minutes, or 18.2%.

The typical teacher's working day was slightly over eight hours as time spent was less in elementary schools. Teachers spent between 58% and 43% of their time in actual teaching. The balance was spent in such things as might be classified as non-teaching activities.

W. A. Ward[36] in "Figuring the Teacher's Load" used the

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35. Stuart Dean, "Teacher's Working Day" Nation's Schools, Vol. XVII, p. 41 (April 1936).

36. W. A. Ward, "Figuring the Teaching Load", Nation's Schools, Vol. XVII, p. 22 (March 1936).

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following method. "1. Figure the time per week spent in classes, study halls, home rooms, and all other duties given a definite allotment in schedule. 2. Allow about 20 minutes daily for each separate lesson preparation for the week. 3. Allow three minutes per pupil per class for the week for grading tests and other written work. 4. Allow reasonable time for coaching, sponsoring, pupil conferences, and extra-curricular activities. Find the sum of these four in hours per week." Item 3 cares for the difference in class size. Ward said that relative subject difficulty could be handled in items 2 and 3.

Conclusion. These studies have been isolated from many[37] to show the trend from 1917 when the teaching load was measured by class size to the present when objective measurements and formulas including several factors are used. The problem now is that of pinning down such factors as class personality, teacher ability, class maturity or age, etc. The answer may be found in the realization that the results of the subjective side of the school can never be measured with absolute accuracy.

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37. E. T. Peterson, "The Teaching Load" in Review of Educational Research, Vol. IV, pp. 297-300 (June 1934). A more inclusive summary.

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CHAPTER III

TABULATION OF RETURNS FROM THE QUESTIONNAIRES

The Teaching Load of 168 Teachers. An analysis of answers to the questionnaire revealed that the teaching loads of the 168 principals and teachers from 33 schools varied from 11.79 to 57.8 units* per week. Undoubtedly, the 11.79 units represents a part-time load and the one on the other extreme a decided overload. A glance at the frequency chart,** where the loads have been grouped according to an interval of five, shows that 71 are between 40 and 45; this is about 45% of the whole group. In spite of this, the average or mean load for the whole group is 39.44. The median load is 40.69. According to Chart II on page 33 the Mean Deviation from the Mean, or, in other words, the average deviation from the average teaching load, is 7.30. This means that at least 57.6% of the loads lie between 39.44 ± 7.30.

Since it might be argued that the teaching load of the principals would decrease the average, the total of these loads was deducted. The new mean was 39.99 just .55 higher than the mean which included all of the teachers. The new median was approximately 41.45 or less than one unit of

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*A class requiring preparation, in which there are 20 pupils, and which lasts for 45 minutes.

**See chart p. 32

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difference due to this change. The average deviation from the median for 147 full time teachers was found to be 4.47 units. This was not computed on the basis of a grouping of loads in ranges (e. g. 30-34, 35-39, etc.) as the previous average deviation was. It was found by subtracting each load from the median, 39.99, and then totalling these differences and dividing by the number of loads. The average deviation for the teaching loads of the entire group was computed in the same manner as that for the full time teachers. It was found that the average deviation for the 168 loads was 5.08 units. The difference in the average deviations of the two groups would be .61 units. The conclusion is that the difference resulting from the elimination of the loads of twenty principals and one part time teacher is slight.

The median load for principals was 36.31, while the mean load was 35.47. Thus both, in spite of inadequate sampling, showed a considerable downward trend from figures given for those doing only teaching. This margin is large enough to suppose that from the viewpoint of measurable factors, the average principal has a lighter load than the average teacher. If this is not true, the principals must be poor judges of time spent in cooperations for therein lies their greatest load. We should assume that the 20 administrators were able to make an estimate somewhere nearly

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CHART NO. I.

LOAD	TABULATION 167 teachers including 20 principals	FREQUENCY
0 - 4		
5 - 9		
10 - 14	/	1
15 - 19		0
20 - 24	////	5
25 - 29	//// /	6
30 - 34	//// ////	20
35 - 39	//// ////	35
40 - 44	//// //// //// //	71
45 - 49	//// //// //// ////	24
50 - 54	////	4
55 - 59	///	2
60 - 64		0
	TOTAL	168

LOAD	TABULATION WITHOUT the 20 principals	FREQUENCY
0 - 4		
5 - 9		
10 - 14	/	1
15 - 19		0
20 - 24	/	1
25 - 29	///	3
30 - 34	//// ////	15
35 - 39	//// //// //	32
40 - 44	//// //// //// //	67
45 - 49	//// //// //// ///	23
50 - 54	////	4
55 - 59	///	2
60 - 64		0
	TOTAL	148

LOAD	TABULATION TWENTY PRINCIPALS	FREQUENCY
20 - 24	///	3
25 - 29	///	3
30 - 34	////	5
35 - 39	///	3
40 - 44	////	5
45 - 49	/	1
	TOTAL	20

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CHART NO. II.

DISTRIBUTION OF THE TEACHING LOADS OF 167 HIGH SCHOOL TEACHERS.

Minimum load - 11.79
Maximum load - 57.80

Load	Principals	Teachers in large high schools.	Teachers in small high schools.	All Teachers
70				
65				
60				
55			2	2
50		1	3	4
45	1	3	20	24
40	5	38	27	71
35	4	9	22	35
30	5	6	9	20
25	2	3	1	6
20	3		2	5
15				
10		1		1
5				
0 - 4				
Totals	20	62	86	168
Quartiles (upper)				43.85
Median				40.69
Mean				39.44
Range			11.79 -	57.80
Number of Schools				33
Quartile (lower)				36.16

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CHART NO. III.

MEAN OR AVERAGE DEVIATION FROM THE MEAN OF THE TEACHING LOADS OF 168 TEACHERS REPRESENTING THIRTY-THREE HIGH SCHOOLS.

	F	D	FD
65 -			
60 -	0	0	0
55 -	2	4	∕8
50 -	4	3	∕12
45 -	24	2	∕48
40 -	71	1	∕71
35 -	35	0	∕139
30 -	20	1	-20
25 -	6	2	-12
20 -	5	3	-15
15 -	0	4	0
10 -	1	5	-5
5	0	0	-52
0-4		0	

$$168 \overline{)\ \begin{array}{l} c = \diagup .518 \\ \diagup\ 87 \end{array}}$$

$$MDm \quad \frac{139 \diagup 52 \diagup .518\ (32-101) \diagup (.25 \diagup c^2)\ 35}{168}\ 1$$

$$\frac{139 \diagup 52 \diagup 36.98 \diagup 18.14}{168}\ 5$$

$$\frac{245.296}{168}\ 5 \quad = 1.46 \times 5 = 7.30\ MDm$$

Therefore at least 57.6 per cent of the teaching loads lie between 39.44 ∕ 7.30.

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correct. Of these 20 principals, nine taught three classes per day, nine taught four, and two taught five per day. Therefore, it is obvious that, including their coöperations, ten* of these principals had an approximately average teaching load and should be considered in the group of full time teachers. It is true, however, that the elimination of the principals, who had a low average teaching load, caused the distribution shown in Chart No. I to be more normal and eliminated a range to the left.

There still remains some abnormality on the left side of the large group of teaching loads. This is evidencedby the fact that the mean or average load is 1.25 units below that of the median. The mean for 148 teachers, (eliminating 20 principals) was only .72 below the first median but was still about the same distance from the median of its own group. This tendency of a range toward the left, therefore, is characteristic of both groups.

The percentile graph, Chart IV, shows this same tendency and the spread of the loads is least from the median upward. The abnormality of the distribution is due to several factors. On the left or below the median it is caused by including the principals and the part-time teachers. On the right or above the median it is caused by the recommendations and the absolute limitations of the State Board of Education.

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*See Chart II, page 33.

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Another factor tending to group the teaching load near the upper limit is the desire for economy on the part of school boards.

The percentile graph indicates that forty percent of the teaching loads did not exceed the range of 35-39; that 75% did not exceed the 40-44 range; 95% did not exceed the 45-50 range, etc. This can be further explained by saying that if one's teaching load is 56.80 units; then only one person in 100 would have a teaching load as great as his. At the other extreme we find that less than one person in every group of 200 has a load less than the 15-19 range.

The upper quartile load, 43.85 for the whole group is 4.41 units above the mean and 3.16 above the median. The lower quartile load of 36.16 is 3.28 points below the mean and 4.53 below the median. This is an indication of the tendency of these loads to cluster. Since 75% do not exceed 43.85 and 75% do not fall below 36.16, then 50% of the teaching loads fall between 36.16 and 43.85. This again indicates that the average is near a point of accuracy.

Class Periods Per Week. Chart No. V shows that the median number of class periods is 25 per week or 5 classes per day. The average number of classes per week is 25.10 which shows the rule of having five classes per day for five days a week. Including the 15 who have 26 classes per

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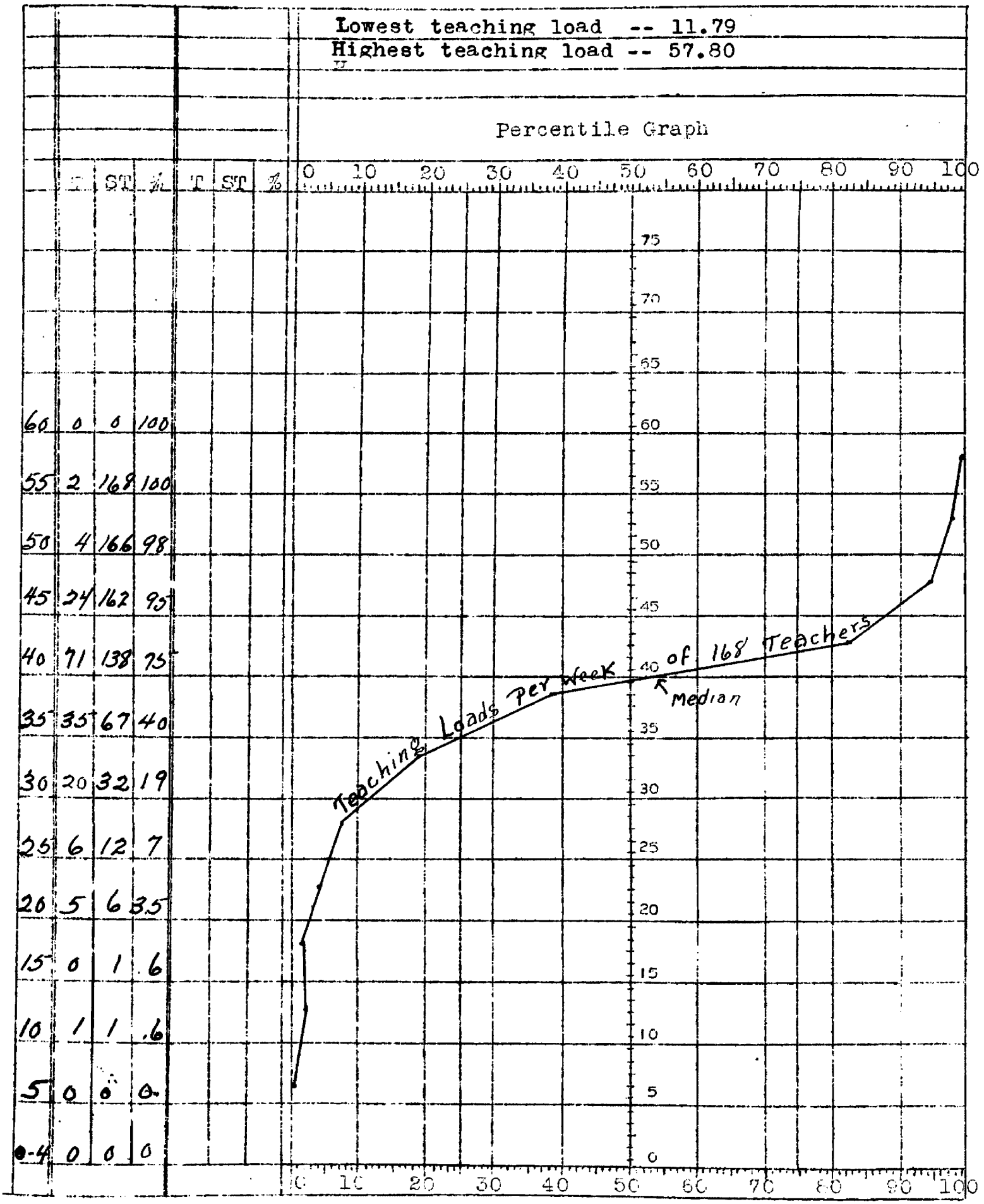
PERCENTILE GRAPH

CHART No. IV - THE TEACHING LOADS PER WEEK OF 168 TEACHERS

Lowest teaching load -- 11.79

Highest teaching load -- 57.80



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SCHOOL OF FORESTRY
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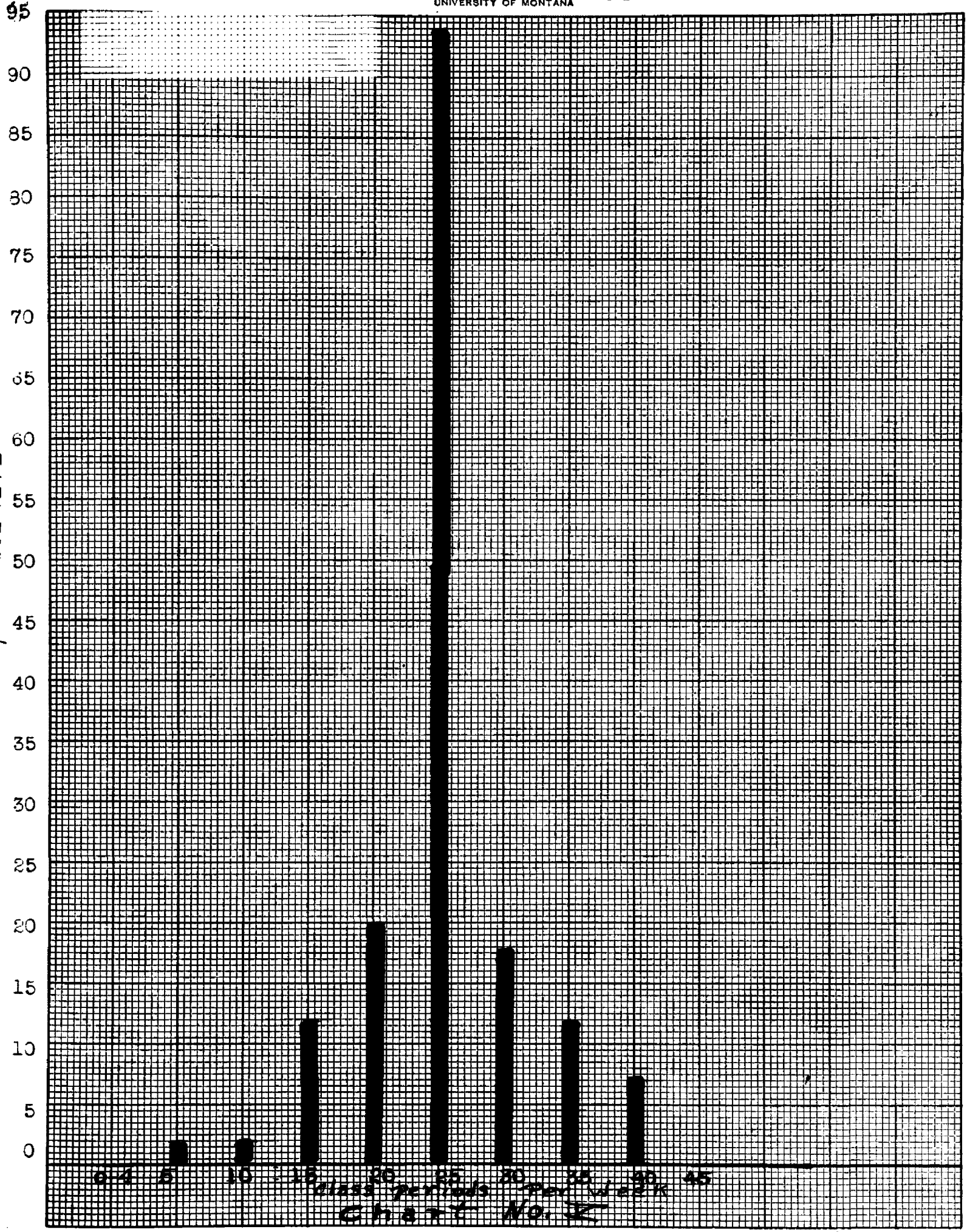
PER WEEK OF 167 TEACHERS



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week, practically the same as five per day, there would be 94 of the 167 teachers who have five classes per day. This tendency toward five classes may be explained by the limitations on the number of classes taught and the desire of school boards to economize by assignment of the recommended five subjects per teacher.

Eighteen teachers had at least six classes per day, twelve had seven, and seven teachers had eight classes per day. Most of the 36 teachers who remain had four classes per day and of those who had three classes per day, ten were principals. The fact remains that 129 of the 168 teachers teach five or more classes a day and that of these 35 teach from six to eight classes.*

Can a teacher teaching five classes of forty pupils per day, having sixty or forty-five minute periods, and one study hall besides her cooperations, do justice to her pupils, the school, the administrator and herself? Can the teacher in the smaller school who has six, seven or eight classes per day, of 20 pupils each, and one study hall period, besides her cooperations, do any better? These are some of the reasons why we have so many disillusioned college and normal students who, having prepared to teach, find jobs unavailable. The school is as guilty of causing unemployment as is industry.

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*A small number of these teachers do some teaching in grades seven and eight.

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Duplicate Preparation. Sixty teachers reported an average of 10.3 duplicate preparations per week or approximately two duplicate classes per day. Practically all of these duplicate preparations were in large schools. The range was from 2 to 25 duplicate periods per week. One teacher had five duplicate preparations per day. Teachers in large schools usually have two separate preparations per day and seldom more than three. Teachers in small schools seldom have any duplicate preparation and teach five and once in a while six different subjects. Besides this, teachers in small schools usually teach, not in one field (such as history or English) but in two or three.

A study of the number of different subjects taught by 147 full time teachers reveals that the median number is four subjects. The range as shown in the table below is from one to seven subjects. The two modes at three and at five subjects represents trends in large and small high schools.

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DUPLICATE PREPARATION AS SCHOOL OF FORESTRY UNIVERSITY OF MONTANA REPORTED BY 60 TEACHERS

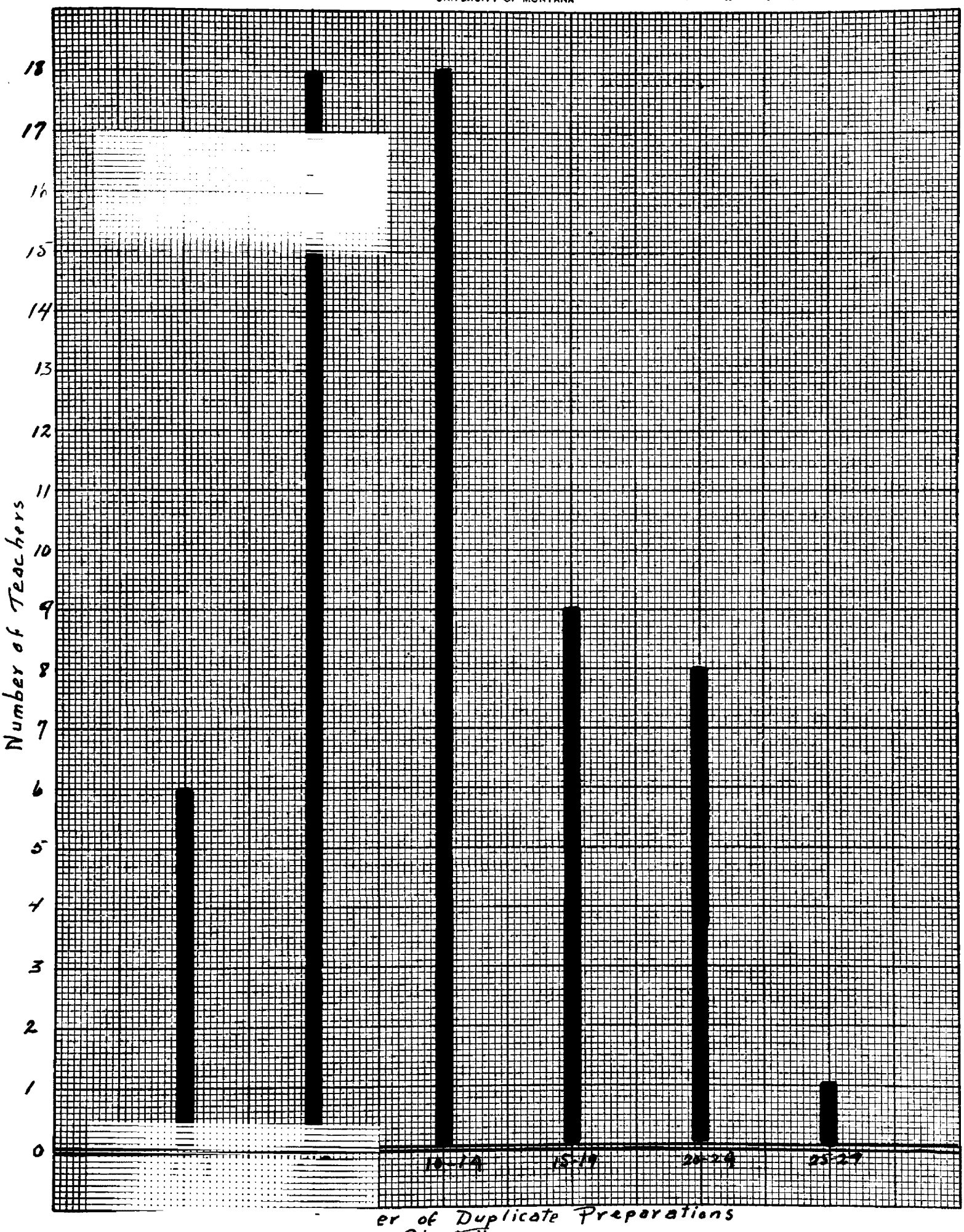

Chart VI

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TABLE I.

THE NUMBER OF DIFFERENT SUBJECTS TAUGHT BY 147 FULL TIME TEACHERS

14	teachers	taught only	1 subject
16	"	"	2 subjects
30	"	"	3 "
26	"	"	4 "
41	"	"	5 "
14	"	"	6 "
6	"	"	7 "

Number of Pupils Per Week. The 167* teachers reporting had numbers of pupils per week varying from 120 to 1050. These are extremes which are further substantiated by the fact that four teachers had less than 200 pupils per week and three had more than a thousand. The median number of pupils was 515 and the mean number was 518.98, or a variation between the two of only 3.98, approximately four pupils per week. The mean number of pupils in classes per day is 103-104 or between 20 and 21 per class. This is reasonable enough as people think of 25 pupils as an average class today. The upper quartile number was 635 meaning that 75% of the teaching loads did not exceed that number of pupils per week. The lower quartile number was 375, meaning that 75% did not fall below that point. The interquartile range, or the

*One teacher in a large school had no classes and his entire job was to handle the study hall.

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number of pupils per week that 50% of the teaching loads had, varied within 144 points of the mean on the lower side and 116 above the mean.

The two modes on the distribution chart* can be explained by the fact that the mean number of pupils per week was 448.8 and the median number for the large high schools was 683.8. The tendency for class size to rise rapidly is due to the economies resulting from larger classes in the smaller high schools. The rapid descent of the curve is due to the limitations of the State Board of Education on class size and pupils met per day. The percentile graph** shows that 93.5% of the numbers of pupils per week did not exceed the 800-899 range and only 11% fell below the 300-400 range. This extends the classification to a point beyond the quartiles.

The conclusion here is that there is too wide a range in the number of pupils per week. The large schools violate on the upper side of the distribution curve and the small ones on the lower. The answer for the large school is more teachers, and for the small school alternation of subjects, elimination of small classes, the use of the six-six plan, standardization of subject combinations, and teacher preparation in three or more subjects.

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*See chart page 44.

**See graph page 45.

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DISTRIBUTION OF PUPILS PER WEEK

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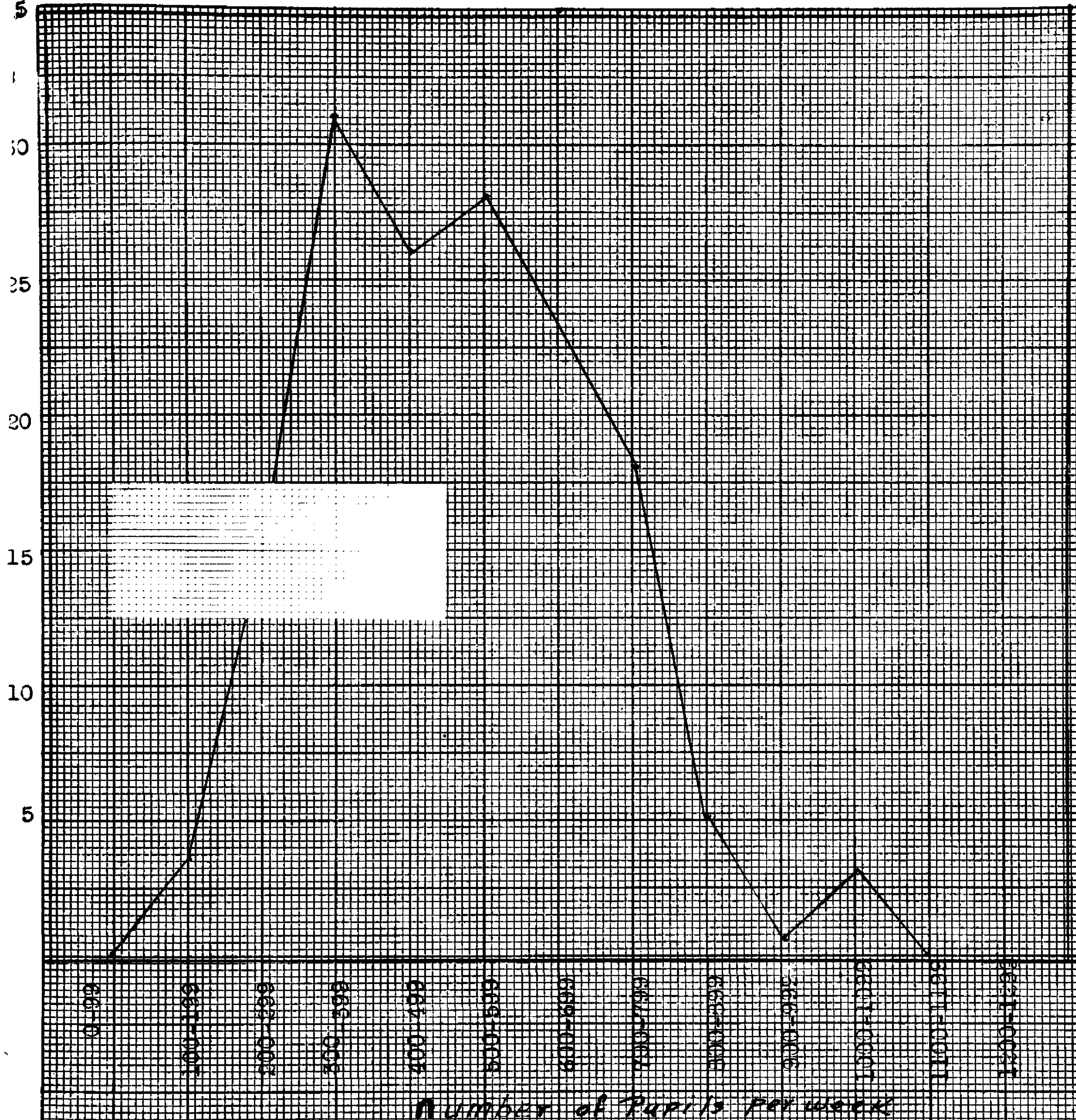

NUMBER OF PUPILS PER WEEK IN CLASSES OF 167 TEACHERS

MEDIAN -- 515.00
MEAN -- 518.38

Highest number - 1050
Lowest number - 120
Upper quartile - 635
Lower quartile - 376

hart No VII

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NUMBER OF PUPILS PER PERCENTILE GRAPH WEEK FOR 167 TEACHERS

Chart No VIII

Number of cases -- 167

mber of pupils per week --120

umber of pupils per week - 1050

Percentile Graph

T	ST	%	T	ST	%
1200	0	0	0		
1100	3	167	100		
1000	1	164	97		
900	5	163	96		
800	18	158	93		
700	36	140	74		
600	28	104	62		
500	26	76	45		
400	31	50	30		
300	15	19	11		
200	4	4	2.5		
100	0	0	0		
099					

0 10 20 30 40 50 60 70 80 90 100

75
70
65
60
1100
1000
900
800
700
600
500
400
300
200
100
0

Number of Pupils per week per teacher

↑ median

0 10 20 30 40 50 60 70 80 90 100

art VIII

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Time Spent in Cooperations. According to the report of 100 teachers, study hall supervision* occupies an average of 7.95 periods per week or 1.6 periods per day. One hundred and forty-five teachers reported that they spent 6.98 periods per week or 1.25 periods per day in preparation for class periods. Extra-curricular music requires an average of 6.3 periods per week or 1.26 periods per day for those teachers who direct musical activities.

The table below explains the remainder of the cooperations reported on by teachers.

TABLE II.

COOPERATIONS	PERIODS PER WEEK	(Mean number for those reporting) PER DAY	TEACHERS REPORTING
Super. of study hall	7.95	1.6-	100
Prep. for classes	6.98	1.4-	145
Correction of papers	6.47	1.3-	137
Music-e.c.	6.30	1.26	27
Administrative work	5.69	1.14-	27
Coaching athletics	5.62	1.12/	36
Regular Phys. Ed. Class	3.21	.64/?	14
Super. of Student Activity	3.17	.63/	54
Hall duty	3.16	.63/	81
Dramatics	2.57	.51/	30
Community act.	2.12	.42/	100
Teachers' meetings	.34	.06/	102

*See bar graph on page 47.

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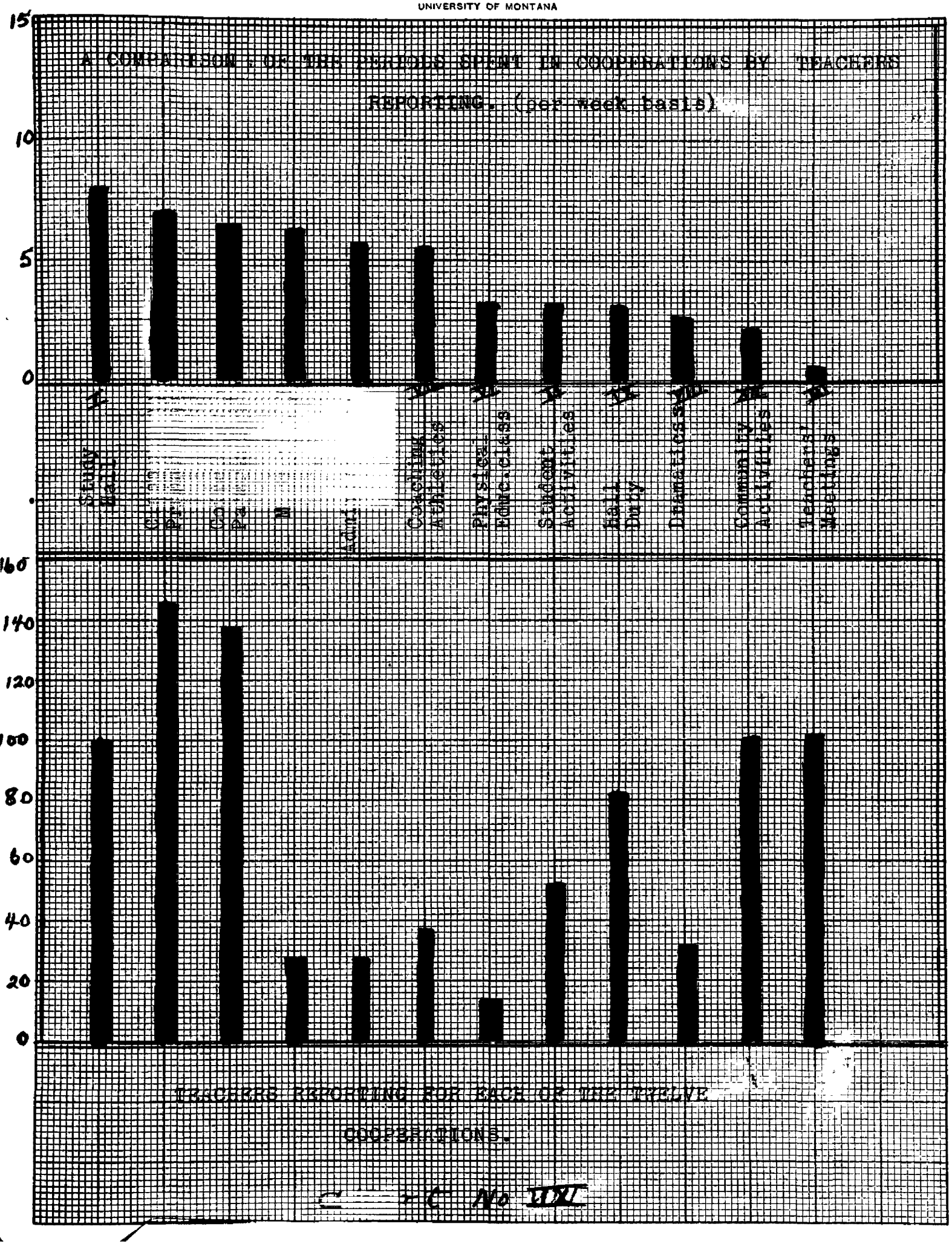

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These are listed as periods per week because, according to the study, approximately half of the schools included used the 45 minute period and most of the remaining ones used the 60 minute period. This means that one-half of the teachers studied use 1.15 times as much time in cooperations as the other half. The number of cases reporting was given as an index to the accuracy of the estimates. Averaging the hour and 45 minute period, the 167 teachers spend 4.38 hours per day and 21.91 hours per week on cooperations.

Small School Versus the Large School.* The mean teaching load for the large high school, represented by 61 teachers, is forty units per week. That of the small high school, represented by 87 teachers, is 40.28 units per week. Twenty principals were excluded from this study in spite of the fact that eleven of them teach four or more classes per day. All of them are in charge of small high schools and they would lower the small school mean to 39.37. Therefore, considering strictly full time teachers, the small high school has .28 units higher teaching load than the large one. This is not as great a difference as people expect. They overlook the large class factor which normally offsets the decline in the teaching load due to duplicate preparation. Large schools have an average of two duplicate preparations

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*An analysis of the schools shows that the line can be drawn at about 350 pupils.

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per day while in small schools this factor is negligible.

The number of different subjects taught by teachers in large and small high schools is shown in Table No. III. The large school has a median of three different subjects with a range of from one to five. The small school has a median of five different subjects taught per teacher with a range of from three to seven.

TABLE III.

NUMBER OF DIFFERENT SUBJECTS TAUGHT

81 TEACHERS IN SMALL SCHOOLS					
6	teachers	taught	3	different	subjects
16	"	"	4	"	"
39	"	"	5	"	"
14	"	"	6	"	"
6	"	"	7	"	"
66 TEACHERS IN LARGE SCHOOLS					
14	teachers	taught	only	1	subject
16	"	"		2	subjects
24	"	"		3	subjects
10	"	"		4	subjects
2	"	"		5	subjects

As to the number of classes per day, both tend toward the five class average for the whole group. The large high school assigns five subjects most consistently - the smaller school from four to seven.

The mean number of pupils per week per teacher for the small high school is 448.8 while that of the large high

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school is 683.8. The number of pupils per teacher is much larger in the large high school. The average class size in the small high school is 18- pupils per day for each teacher while it is 27- for the larger school.

TABLE IV.

SUMMARIZING COMPARISONS OF MEANS OF LARGE AND SMALL SCHOOLS

	SMALL SCHOOL	LARGE SCHOOL	
Teaching Load	40.28	40.	units
Classes - per week	25+	25+	
Duplicate Preparation - per week	2	10+	
Number of pupils - per week	448.8	683.8	
Avarage number per class	18-	27-	
Cooperations - per week	25.66	20.75	periods
Different subjects taught	5	3	

Teachers in large high schools spend 20.75 periods per week in cooperations while in small schools they spend 25.66. More of the large schools use the 60 minute period. This factor increased the load in these schools and offset the factors causing the teaching load to rise in smaller schools. There is a tendency for factors in each school to offset each other.

Summary. The mean teaching load for the entire group was 39.44 units. Eliminating 20 principals and one part time teacher, it was 40.16 units.

The average teaching load of 168 teachers was 518.98 pupils per week. Without the principals and one part time teacher it was 545.64.

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Duplicate preparations averaged approximately two classes besides the original section per day. Sixty teachers reported in this group and duplicate preparations varied from 2 to 25 per week. These were practically all in large schools. Concerning the number of different subjects taught, we find the average to be four per day for the 147 full time teachers. The range was from one to seven different subjects.

The average number of class periods per week was slightly over 25, or 5 per day. All schools exhibit this tendency toward 5 classes. The large schools have very few deviations while small schools varied from three to seven. The average time spent on cooperations by each teacher was 4.38 hours per day and 21.91 hours per week.

The small high school has a mean teaching load of 40.28 units per week or 8.05 periods (requiring preparation) of 45 minutes each, and having 20 pupils per day. The large high school has a teaching load of 40 units or the equivalent of eight classes (requiring preparation) or 45 minutes, and having 20 pupils per day. These are for straight teaching and exclude cases such as part time teaching and principalship. Teachers in small schools spend 4.91 periods per week more on cooperations than large schools. As to number of class periods, the average is 25 per week. Teachers in small schools have a wider range. In the field of duplicate preparations the teacher in the large school has usually two and

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often three, while the teacher in the small school has very few. The average teacher in the small high school teaches five different subjects, while in the large school she teaches three. The range of different subjects taught in the small high school is from three to seven, while in the large high school the range is from one to five. Both types tend toward five classes, the large school is more consistent and the small school has a wide range of variation. The small high school has an average of 448.8 pupils per week per teacher, an average of 18- per class, while the large school has 683.8 or an average of 27- per class. Such deviations or differences as these present many angles for drawing conclusions from the results tabulated. The following chapter shall be devoted to that phase of the study.

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CHAPTER IV

RELATED FACTORS

Sex of Teachers Reporting. Of the 168 teachers answering the questionnaire, it was found that 74 were women and 94 were men. There is a definite trend toward hiring more men in these school systems. Whether or not they will go back to other occupations after the depression is over is a debatable question. Because men stay longer in school systems than women, this trend should bring about a greater stability in our school systems. Society recognizes its responsibility for providing jobs for men. The unemployment in other industries has caused this shift toward the schools.

Period Length. Eighty-one teachers reported use of the 45 minute period in the schools where they taught. Seventy-nine taught under the 60 minute period. Eight reported use of a combination of hour and 45 minute periods. There is a trend in Montana toward the establishment of the hour period because it reduces study halls and is in accord with the theory that most of the students' work should be done at school. The hour periods seem to work best in the supervised study program.

Comparison of the Teaching Loads of Men and Women. A comparison of 147* full time teachers revealed that the women in

*The 20 principals were not included in this comparison.

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this study had higher teaching loads. Seventy-four men and 73 women were included in this group. The women had an average teaching load of 42.17 units and a median of 42.03, while the men had an average of 39.99 units and a median of 41.07. This indicates that the women had an average of 2.18 units per week more than the men. The differences between the medians indicated this same tendency although they lessen the extreme. This is not in harmony with the findings of previously mentioned studies, which indicated that men had a higher teaching load than women. Since these studies were made in different localities, this may be due to some environmental factors.

Factors Increasing the Teaching Load. On one part of the questionnaire,* nine factors were listed which were thought to be causes of a large teaching load. Teachers were asked to check five of these factors which they thought were the cause of an excessive load. These are not conclusive figures but they give some indication of the attitudes of teachers. Sixty-two checked,** "too many daily preparations"; sixty-one, "inadequate reference books, maps, and equipment"; fifty-one, "too great a variety of subjects"; fifty, "too many extra-curricular activities"; forty-one, "subjects taught

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*See questionnaire p.

**See chart No. IX, p. 55.

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FACTORS AFFECTING THE SCHOOL OF FORESTRY UNIVERSITY OF MONTANA TEACHING LOAD

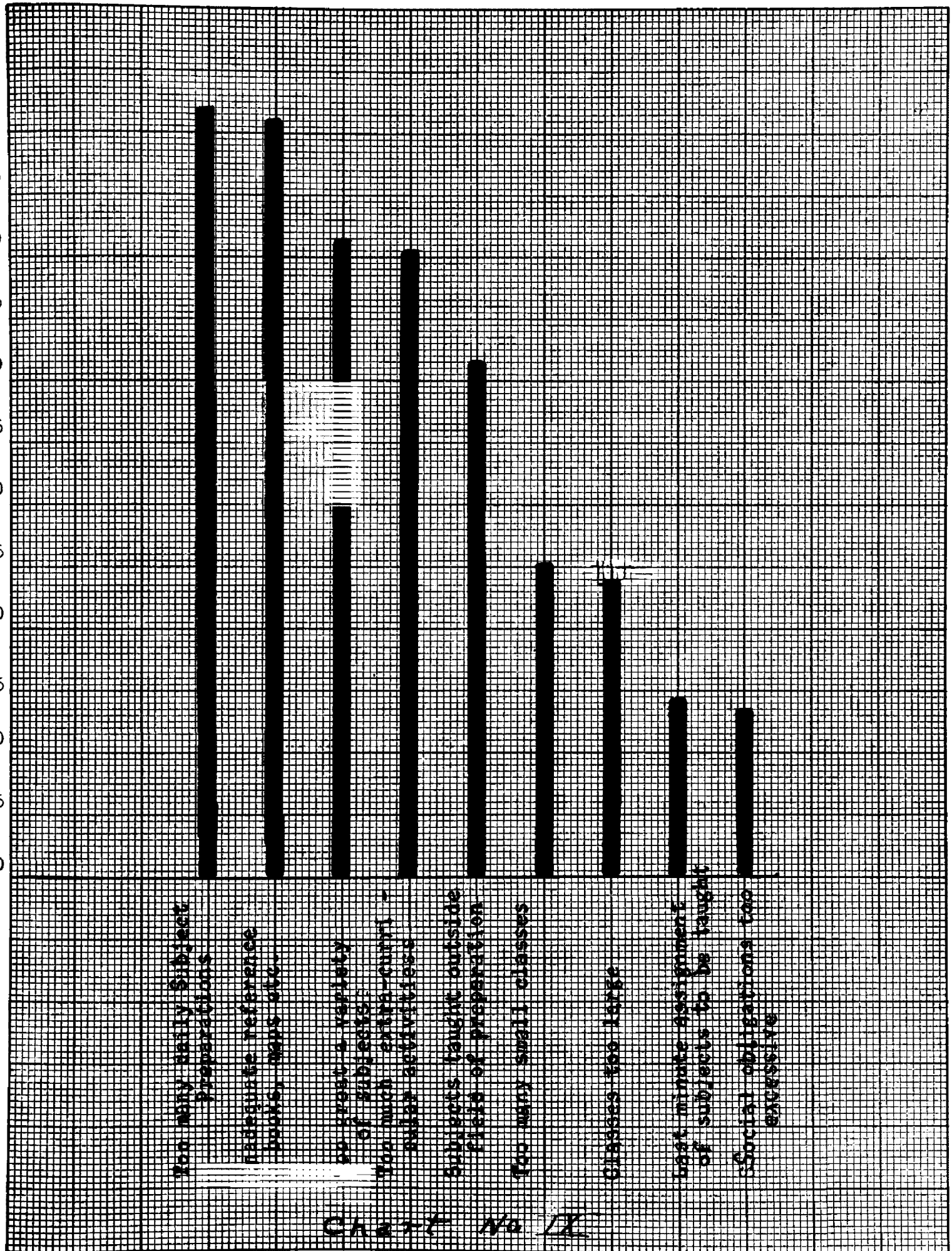

Chart No IX

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outside field of preparation"; and twenty-five, "too many small classes". The above have been grouped together because they are characteristic of small schools. The questionnaires tended to bear out this fact.

Twenty-four checked, "classes too large"; fourteen, "last minute assignment of subjects to be taught"; and thirteen checked, "social obligations too excessive". Excessive class size is a characteristic weakness of large schools that was checked often by teachers in them. An interesting comment, which came from a teacher who taught seven subjects, was that her load was not heavy and that it just fitted her time. Another teacher added unsatisfactory living conditions to the list of factors.

Was Your Teaching Load Heavier this Year than Last Year? Of those answering this part of the questionnaire, seventy-one said that the load was not heavier than it had been the previous year; twenty-nine said that it had increased; and sixty-eight did not answer. These answers seem to indicate a tendency toward assignment of the same teaching load from one year to the next.

Difficulty Coefficients. From the group of 147 teaching loads made up of full time teachers, twenty-eight loads were selected as the basis of this study. Those teaching loads in fields of equal difficulty requiring the computation of only one coefficient were selected. A larger group than this was

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not taken because many of the others taught in two fields having different coefficients. The others taught five different subjects meaning that all three coefficients would often have to be calculated for one teaching load.

From the results of this survey it is doubtful if great unit difference would occur in a teaching load having subjects in three fields, one coefficient remaining constant, one decreasing and the other increasing. Such might be the case when using the difficulty coefficients suggested by Douglass,[38] namely: English, history, social studies, and science 1.1; foreign languages, commercial subjects, and mathematics 1.0; shop subjects, household arts, music, and physical education .8.

Using these difficulty coefficients, it was found that the average teaching load was 39.17. This indicates an increase of 1.02 units, or periods of 45 minutes, requiring preparation, for a class of twenty pupils per week. The authority for these studies on subject coefficients is found in the studies of Koos,* Reichard, Brownell,[39] and Tritt.[40] Douglass combined the results of their studies into the difficulty coefficients listed above. Differences in teaching loads due

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38. Quanbeck and Douglass, op. cit., p. 37.

*An attempt was made to secure Koos' Masters Thesis but was unsuccessful.

39. Douglas, op. cit., p. 118 (He gives good summaries of the Masters Theses of Koos, Reichard, and Brownell.).

40. Tritt, op. cit., pp. 61-65.

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to subject coefficients could readily be handled by the regulation of class size and cooperations or by clerical assistance in grading papers. The more sensible way of handling subject difficulty would be by adjusting assignments. The busy principal would do well to compute one teaching load and would seldom have time to use three subject coefficients for each load.

Subject Combinations.

TABLE V

THE MOST FREQUENT SUBJECT COMBINATIONS

SUBJECT	FREQUENCY	TOTAL
English	𝍸 𝍸 𝍸	15
Science and Mathematics	𝍸 𝍸 ///	13
History	𝍸 𝍸 //	12
Commercial	𝍸 𝍸 //	12
Science	𝍸 𝍸	10
Mathematics	𝍸 ////	9
English and History	𝍸 ///	8
English and Commercial	𝍸 ///	8
English and Foreign Language	𝍸 ///	8
History and Science	𝍸 //	7
History and Mathematics	𝍸 /	6
History, English, Mathematics	𝍸 /	6
English, For. Lang., History	𝍸 /	6
		120

In the table above, the thirteen most frequently occuring subject-combinations of teachers are shown. They represent 120 of the 168 teachers included in this study. Three out of four of the subject-combinations in these 33 schools

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would be those listed in this table. There were forty different subject combinations. The other 27 may be found by referring to the table on page of the appendix. This makes clear the need for better regulation of subject-combinations. A teacher who has subjects in four fields (e.g. English, history, mathematics, and science) has very little chance of building an adequate scholastic foundation for teaching.

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CHAPTER V

WEAKNESSES OF THIS STUDY

The Letters and the Questionnaire. The letter to the principals* aimed to secure their support for the study; however, its length and the suggestions made were partly responsible for the poor percentage of return. The aim of the introductory letter** was to present the appeal to the teachers, to explain the purposes, and to show why their assistance was needed. This letter was too detailed and too long. Both the above mentioned letters were too objective and for that reason failed in their appeals.

The formula should not have been included in the questionnaire. Evidence of the resulting confusion is borne out by the following statement: "The teachers said they had some difficulty in agreeing on the terms and method for solving the formula." The questionnaire failed to provide for a double check on the figures regarding class size,*** number of classes per week, and duplicate preparations. Several authorities were consulted and nowhere was there any intimation of the necessity for double checking. This double checking should not be so obvious as to become monotonous or impractical.

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*See sample letter page .

**See sample letter page .

***See questionnaire page .

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Some of the author's explanations of the Douglass formula seemed hazy. That the study was on a per week basis failed to register in several cases. Every effort was made to clarify the factors involved in the formula, but a few failed to understand some of the points. Many did not bother to check the causes of a heavy teaching load. Some, however, stated that their teaching loads were not heavy and for that reason they did not check any factors.

Official support of the questionnaire was not secured in advance. A summary of the returns of the study was promised and in several cases offers were made to pay for clerical assistance. People were not made to feel that they were of a selected group. The questionnaires were mimeographed and such evidence of large scale production might have affected the returns. The follow-up of the questionnaires was inadequate and a little more work on that phase might have yielded results.

The findings on cooperations in one large school had to be secured through the principal, a discussion with one faculty member, and the author's knowledge of the system.

The letter to the principals, the introductory letters, and the questionnaires gave the intimation that there was a large amount of work involved. It is certain that the author failed to provide enough postage on a few of the envelopes enclosed for returning questionnaires.

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Sampling. The original intention of this study was to include the returns from 200 teachers in representative groups. Questionnaires were sent to approximately 55 schools with returns coming from 33. They were complete from 30 schools. Whether the 168 questionnaires returned constitute an adequate sampling is a matter to be judged by authorities and by comparisons with other studies along the same line and under the same conditions. As to an adequate sampling of the 33 schools they represent the greatest economic diversities of this state.

From a practical viewpoint, this study should be representative. The deviations in the teaching load are not so extreme as to expect that the average teaching load for any similar group would vary more than $\pm$.50 units. The foundation for this conclusion is the fact that the group of principals, who were representative of lower actual teaching loads, reduced the average only .72 units. The average deviation of single loads could not be more than 5.08 units. This group of teachers including principals, part time teachers, and teachers of seven subjects (handling cooperations too) represented the extremes of the teaching load.

Cooperations. The list of cooperations apparently was inclusive enough for this study. The fact remains that some

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of this work such as preparation for class periods might have been done in the study hall. In such a case two of these cooperations would have been carried on at the same time.

How accurate are the estimates of time spent by those reporting on each cooperation? There is a tendency for the beginning teacher to spend too much time in cooperations and for the older teacher to spend too little. The tendency of those reporting should be somewhere near the average. The teachers themselves should be able to satisfactorily estimate cooperations, if they are unprejudiced.

Conclusions. If the questionnaire and letters were to be revised, they could be improved by the following changes: make the letters shorter and more subjective; omit the formula and introduction from the questionnaire sheet; explain the formula in a more concise and definite manner. Official support should be secured from the superintendent or principal before sending out the questionnaire. The questionnaires should be tried out with a group of at least 25 teachers. The follow-up work and the whole procedure should be more definitely planned.

These are but a few of the outstanding places where this study could be rebuilt. While it bears all the earmarks of a novice, it does enter more extensively into the field of cooperations than any study of its nature that the author had found.

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CHAPTER VI

PROBLEMS SUGGESTED BY THIS STUDY

Cooperations. The studies* of Dean,[41] Crofoot,[42] and Nuttall[43] show considerable variation as to the average time spent by teachers in cooperations. This discrepancy indicates the need for an extensive study of this problem. A survey of a large group should establish definite averages along these lines. This study has merely touched the subject. The teachers themselves tend to overestimate the time spent and the estimate of principals could be combined with theirs to get a greater degree of accuracy.

A second part of this suggested study could deal with cooperations which occupy the same period or are carried on simultaneously. The teacher, who is able to complete her preparations for classes in her two periods of study hall duty, would have a lighter teaching load than the teacher who has a large study hall requiring so much supervision that her preparation has to be made outside of school. The problem would be to find how much this overlapping of cooperations lightens the teaching load.

Experience of Teachers. The relation of experience to the teaching load could also be studied in this state.

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*See p. of this study for a comparison of these studies.

41. Dean, op. cit., p. 41.
42. Crofoot, op. cit., pp. 446-452.
43. Nuttall, op. cit., pp. 1-45.

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There are several studies of this problem, which have been made in other states, that would serve as a guide to the novice.

Ability of the Teachers. Douglass[44] suggests, as do others, that where large classes must be assigned, they should be given to the more capable teachers. Just how this could be brought into a formula for measuring of the teaching load is uncertain. However, it is a question worth considering.

Personality of the Class. Douglass[45] suggests that traits such as intelligence, industry, and other composite ones of that class be taken into consideration in measuring the teaching load. These traits can be measured, but just how they can be handled in their relation to the teaching load is a problem, which has not been solved. Large schools often group their students in classes according to intelligence and achievement quotients but it is almost impossible to do that in the typical Montana high school. Whether these classes would increase or decrease the teaching load is questionable. The exceptional classes might require just about as much additional time as the retarded groups. Age of pupils is another factor here involved which is intangible and yet many suggest that it should be included.

44. Douglass, op. cit., p. 115.

45. Ibid., p. 114-15.

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Edgerton[46] answers this when he says the "age of serious thinking is a variable quantity under ordinary conditions since the period of adolescence is a period of much shifting of ideas and attitudes." The intelligence quotient rather than the chronological age would be the best means of grouping in grades. The factor of age might correspond to that of class (e.g. Seniors should be easier to teach than freshmen). The problem suggested here is that of making class personality a measurable factor in the teaching load.

Subject Combinations. A thorough study of subject combinations in this state would be profitable to administrators, teachers, those preparing to teach, and teacher training institutions. The findings in this study might give some suggestions as to procedure. There are other studies which could serve as guides.

Number of Different Subjects Taught. The conclusions from a study of the different subjects taught by each teacher would be valuable to the same group. The studies of Fitzpatrick and Hutson[47] should be read before attempting such a thesis.

Studies of the Same Nature. Suggestive problems.

1. A study of the teaching load of high school

46. A. H. Edgerton, Vocational Guidance and Counseling, (New York, 1936), p. 19.
47. Fitzpatrick and Hutson, op. cit., pp. 1-56 (Part II).

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principals in Montana.

2. A more detailed study of large and small high schools.

3. What consideration is given to the teaching load in progressive and non-progressive schools?

4. A study of large schools using difficulty coefficients and of some small schools, if the latter part is practical.

5. Does an increase of fifteen minutes in the period length increase the preparation and other work of the teachers by one-third or by 15 per cent, as Douglass[48] estimates.

6. A study of the teaching loads of grade school teachers.

7. And finally a duplication of this same study, eliminating the weaknesses, so that some of these conclusions may be accepted or discarded.

Conclusion. These are a few of the questions and problems that have arisen in the author's mind. It is his sincere hope that they may be of some value to those who may read this study.

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48. Douglass, op. cit., p. 118.

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CHAPTER VII

COMPARISONS

Teaching Loads. From the standpoint of teaching loads, it is not possible to compare definitely this study with the studies made by Douglass and his associates. The dissimilarity is due largely to the range of cooperations measured. Douglass and Saupe[49] list cooperations as supervision of study hall, libraries, and home rooms. Quanbeck and Douglass[50] speak of cooperations as study halls, extra-curricular activities, and other cooperatives. Nowhere in the available reference material was there any definite specification as to what Douglass[51] meant by cooperations.

TABLE VII

TEACHING LOADS IN TERMS OF DOUGLASS UNITS

	Upper Quartile	Difference	Median	Difference	Lower Quartile	Mean
Minnesota	34.7	3.7	31.0	4.5	26.5	
Douglass, Saupe	28.3	2.57	25.73	3.13	22.6	25.6
	30.79	2.50	28.47	2.60	25.87	28.37*
Quanbeck, Douglass	32.3	2.50	29.8	2.90	26.9	29.6*
This study	43.85	3.16	40.69	4.53	36.16	39.44

Douglass and Saupe list only three cooperations as mentioned above. This study lists twelve. Assuming that the results from twelve cooperations would be four times as great

49. Douglass and Saupe, op. cit. pp. 428-33.
50. Quanbeck and Douglass, op. cit., pp. 37-39.
51. Douglass, op. cit., p. 120.
*Units were computed using subject coefficients of difficulty.

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as from three, this would eliminate 13.80 units of the difference between the two. These 13.80 units, which account for part of the difference, were found by multiplying by four the median number of units spent in cooperation, 3.2, as found by Douglass and Saupe.[52] The different measures of central tendency--means, medians, and quartiles--in the table indicate that the difference between each of the first three studies and that of the author is about the same. The conclusion is that the extensive measuring of cooperations in the author's study makes up the greater part of the difference in the findings shown in Table VI.

Number of Pupils Per Day Per Teacher. The following table indicates the results of representative studies on this subject.

TABLE VII

NUMBER OF PUPILS PER DAY PER TEACHER

Davis[53] (1923)	found	a	median	of	125	pupils.*	
Babson[54] (1917)	"	"	"	"	104	"	.*
Davis[55] (1925)	"	"	"	"	125	"	.*
Douglass and Saupe (1935)	"	"	"	"	117	"	.
This study (1935)	"	"	"	"	103	"	.

52. Douglass and Saupe, op. cit., pp. 428-433.
53. Davis (1923), op. cit., p. 592.
54. Peterson, op. cit., pp. 92-93.
55. Davis (1925), op. cit., 38-39.
*These had to be computed from their results by the author.

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The general tendency toward a median number of 100 to 125 per day is clearly shown. Even the average number of pupils in large schools, included in this study, extended only six pupils beyond the 150 per day recommended by the State Board of Education.

Class Periods Taught Per Day. The studies in the following table represent three states and the schools accredited by the North Central Accrediting Association.

TABLE VIII

CLASS PERIODS TAUGHT PER DAY

Davis[56] (1925)	found	a	median	of	5	classes	
California study[57] (1927)	"	"	"	"	4.96	"	
Pennsylvania[58] (1927)	"	"	"	"	5.55	"	
This study (1935)	"	"	"	"	5.	"	

These studies all show the same tendency of five classes per day per teacher.

Different Subjects Taught. The Pennsylvania study gives the median number of different subjects taught as 4.51. The California study has a median number of 4.54. This study has a mean of 3.95 subjects taught and a median of four different subjects taught per teacher. In all these studies, there was

56. Davis, (1925), op. cit., pp. 38-39.
57. Fitzpatrick and Hutson, op. cit., p. 12-20.
58. Ibid., pp. 12-20.

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a tendency for the small school to have a greater number of different subjects per teacher than the large school.

Length of the Teacher's Working Day. According to the results of this study, the average teacher spends 22.70 hours per week in actually teaching classes. She spends 29.22 periods or 21.91 hours per week in cooperations. Actual class teaching requires 4 hours and 32 minutes per day, while cooperations take 4 hours and 23 minutes per day. The average working day of the 167 teachers studied is 8 hours and 55 minutes.

Stuart Dean,[59] in a study of 500 Newton, Massachusetts teachers, found that their total working day was 8 hours and 52 minutes. He found that actual teaching time was 3 hours and 48 minutes and the time spent in cooperations was 4 hours and 54 minutes. His study included elementary as well as high school teachers. It is reasonable that the elementary teachers would spend less time per day than high school teachers. He concluded that teachers spend between 43 and 58 per cent of their time in actual teaching and the balance in things called school activities. The estimate tends to strike an average of 50 per cent. His conclusion is very similar to that of this study.

Crofoot[60] in her study of the time spent by teachers both in and out of school has an average for those in the Bremerton,

59. Dean, op. cit., p. 41.
60. Crofoot, op. cit., p. 446-52.

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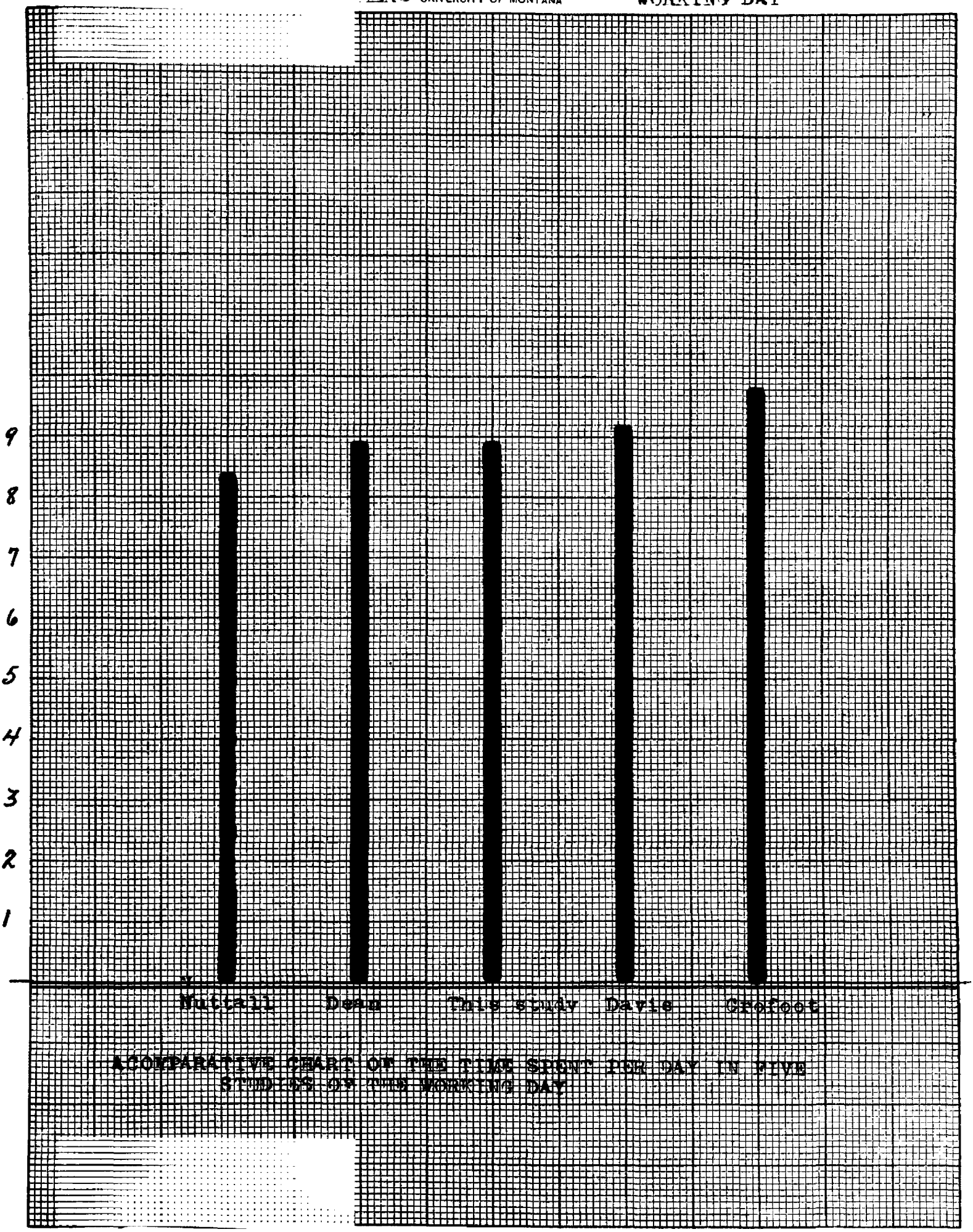

A COMPARATIVE CHART OF THE TIME SPENT PER DAY IN FIVE STUDIES OF THE WORKING DAY

Chart XI

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Washington schools of 48 hours and 23 minutes per week. This is equivalent to 9 hours and 41 minutes per day. These figures are higher than those given in other studies.* Nuttall's[61] study of the "Teaching Loads in Utah's Small High Schools" reveals an average of 42 hours per week or 8 hours and 24 minutes per day. Davis[62] in his article, "Class Size and the Teaching Load", concluded that the average teacher spends from 8 hours and 20 minutes to 10 hours per day--an average of 9 hours and 10 minutes.

The findings of Nuttall, Dean[63] and Davis, and this study show considerable resemblance.** The conclusion is that the working day of the average teacher is about 8 hours and 50 minutes.

The Teaching Loads of Men and Women. Douglass and Saupe[64] found that there was no noticeable difference in the teaching loads of men and women. Quanbeck and Douglass[65] found that men had a slightly greater load due to cooperations. The finding of this study indicated that women have a slightly higher teaching load than men. The conclusion here is that there is little actual difference between the teaching loads of men and women.

*See Chart No. VIII, p. 69.

61. Nuttall, op. cit., p. 1-45.

62. Davis, op. cit., p. 592 ff.(1922).

63. Dean, op. cit., p. 41.

**See Chart No. VIII, p. 69.

64. Douglass and Saupe, op. cit., p. 428-433.

65. Quanbeck and Douglass, op. cit., p. 37-39.

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General Comparisons. Some other findings of these studies that are in harmony with the author's findings* are:

1. That teachers in small schools have about twice as many preparations as those in large schools.
2. That the small schools spend more time in supervision of study halls.
3. That the large schools have many more pupils per class.
4. The teachers in small schools usually teach in several fields.
5. That subject combinations should be standardized.
6. That many principals have teaching loads equivalent to those of average teachers.
7. That large schools are generally more efficient than small schools.
8. That future teachers need a wide range of subject preparation.

Conclusions. Comparisons were difficult to make because of the lack of uniformity in the formulas used to measure the teaching load. Only the studies of Douglass and his associates bore any resemblance to this study. The available references to these studies were summaries in magazines. Many of the facts necessary for comparisons were omitted for the sake of brevity and interest. The comparisons do point out some

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*See Chapter VIII.

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trends characteristic of these studies. They give further evidence for the conclusions which are enumerated in Chapter VIII.

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CHAPTER VIII

CONCLUSIONS AND RECOMMENDATIONS

The conclusions from the foregoing study are that:

1. The teaching load should be equalized. Those loads outside the range of 39.99-45.06 are unfair to teachers.*
2. The average teaching load of 40.16 units constitutes an adequate starting point for readjustments.
3. Efficient administrators cannot afford to neglect the teaching load. Other studies[66-67] have reached this conclusion.
4. The formula of Douglass* is the most comprehensive and practical one available for the study of this problem.
5. The adjustment of teaching loads can often be accomplished without additional cost.*
6. The range of from three to seven classes per teacher is not justifiable. These extremes should be made to

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*A teacher having a load of 45.05 units (a class, requiring preparation, lasting for 45 minutes, and having 20 pupils) would have two units per day more than the teacher who has a load of 34.93 units.

66. Frank R. Pauly, in "Studying Class Size and the Teacher Load", (Nation's Schools, Vol. XVI, p. 21, October, 1935) says that class size and teacher load studies are essential to the efficient and economical school system. Additional duties assigned should be isolated and studied.

67. In "School Costs and the Teaching Load", (American School Board Journal, Vol. LXXXIII, pp. 111-112 (Sept., 1931) No author given) about the same conclusion is reached, namely: that principals should appreciate the added efficiency that an intelligent balancing of classes will give.

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conform to the five class average.

7. Both large and small schools should increase duplicate preparations.

8. There is an excessive range in the number of pupils per teacher per week. This shouls be adjusted with reference to the median of 518 pupils per week.

9. The time spent in cooperations (4 hours and 23 minutes a day) is a vital factor in estimating the teaching load.

10. The teacher has a working day of 8 hours and 55 minutes.

11. Since the average number of different subjects taught per teacher is four and the range from one to seven; future teachers should be prepared to teach at least six different subjects.

12. Subject combinations vary so greatly that it would be well for future teachers to be prepared in at least three different subject fields (e.g. English, history, and Latin).

13. Factors in the teaching loads of small and large high schools are so different that they are a dual problem.

14. Duplicate preparations in large schools offset a part of the increase in the teaching load caused by large classes.

15. Small schools increase the teaching load by having

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too many classes, practically no duplicate preparation, too many different subjects per teacher, small classes, and excessive cooperations.

16. Small schools have slightly greater teaching load than large schools.
17. The women included in this study had slightly greater teaching loads than the men.
18. One-third of the principals studied have a teaching load equal to that of the average teacher.
19. School systems should obey more closely the rules and regulations of the State Board of Education.
20. There is an opportunity for some accrediting group to define and more completely limit the factors composing the teaching load.

The Average Teacher - A Summary. The average teacher has a teaching load of 40.16 units. This means that her teaching time is the equivalent to that many periods of forty-five minutes, per week, each requiring preparation and having twenty pupils. She has 25 class periods per week or five classes per day. She has 518- pupils in her classes per week, 102-103 per day, and an average class size of 20-21 pupils. When she teaches in a small school, she has 448/ pupils per week or an average of 18- per class. In a large school, she has 683.8 pupils per week, or an average class

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size of 27-. In the average school, she has to teach four different subjects; in a large school, it will be three, while in a small school, it will be five. Her five* most probable subject fields for teaching are: (1) English, (2) science and mathematics, (3) history or social science, (4) commercial subjects, and (5) science. The average teacher seldom has any duplicate preparation if she teaches in a small school but it amounts to one or two classes per day in large schools.

She has an equal chance of teaching in a system using the 45 minute period or in one using the sixty minute period. In the latter case, she has a slightly heavier "in school" teaching load. In a small school, she spends 4.91 periods more per week in cooperations than she does in a large school. She spends 4.38 hours per day in "in school" and "out of school" cooperations, a total of 21.91 hours per week. From 75 per cent to 90 per cent of the time spent in cooperations is outside of regular school hours. The actual time spent in classroom teaching is 4.54 hours. Her total work day is 8.92 hours.

Suggestions for Lightening the Teaching Load. The reader should note that some of these changes can be brought about

*The other eight may be found on p. 50 of this study.

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without additional cost to the school. They concern factors that can be measured in the formula and factors which cannot be measured. Administrators are apt to neglect this latter group. Adjustment of both groups is necessary to a successful system. The following list of suggestions should help to eliminate many of the undesirable factors in the teaching load.

1. Standardize the number of class periods taught.
2. Limit the number of pupils in classes.
3. Assign at least two duplicate preparations to teachers when possible.
4. Confine subject combinations closely to major and minor fields of teachers.
5. Make definite and equalized assignments of cooperations.
6. Use the six-six plan in small schools.
7. Standardize the alternation of subjects in small schools.
8. Adhere closely to curriculum essentials, especially in small schools, and reduce the offerings.
9. See that janitorial service is efficient.*
10. Provide, on time, necessary equipment, maps, reference books, magazines, newspapers, laboratory supplies and equipment.

*Not specifically studied in this thesis.

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11. Use good work books and textbooks. Require use of either standardized or new type tests made by teachers.
12. Provide simplified forms for records and reports and assign regular periods for general assemblies.
13. Allow teachers to use available clerical help for letters relating to school business and for typing tests. Allow teachers to use duplicating machines and typewriters.*
14. Establish firm and reasonable disciplinary policies, systematize make-up work, and have well defined rules and regulations.*
15. Advise teachers as to desirable places where they may live.*
16. Have an efficient system of handling library and reference books.
17. Aid teachers by constructive supervision, interesting teachers' meetings, and helpful advice and assistance.

These are a few of the ways in which an administrator can lighten the teaching load of his staff. Such an enumeration as this or that of Edmonson,[68] should serve as a check list for the progressive administrator.

*Not specifically studied in this thesis.

68. J.B. Edmonson, "How to Lighten the Teaching Load", Journal of Education, (Oct., 1922) Vol. XCVI, pp. 325-326.

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The principal should exercise great care in equally dividing the work of the school among his teachers. He would do well to have his teachers hand in estimates of the time spent in the different cooperations. The principal should make use of every opportunity for regulating the teachers' work and reducing the demands made upon their physical and mental energy. "Increasing the teaching load of the high school teachers is poor economy and poor recovery procedure. The effect upon the development of personality, character, permanent interest and ideals has never been measured as the more limited outcome of scholarship has."[69] Better regulation of the teaching load can be of great assistance in developing the most valuable product of education--well rounded personalities.

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69. H.R. Douglass, "Means of Measuring the Teaching Load in the High School", in The High School Teacher (April, 1934), Vol. X, p. 102.

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THE APPENDIX

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A LIST OF HIGH SCHOOLS, PRINCIPALS, AND ENROLLMENTS REPRESENTED IN THIS STUDY

Augusta	F.E.Sparks	73
Bearcreek	C.L.Baldwin	83
Billings	S.D.Rice	1428
Brady	H.C.Olson	57
Buffalo	J.K.Flightner	52
Columbus	Alexander Seaton	126
Clyde Park	Harry Sawyer	63
Denton	J.H.Westover	120
Dixon*	Reuben Zieg	36
Dutton*	C.M.Gunderson	81
Ennis	F.D.Haines	59
Forsythe	C.C.Shively	205
Frenchtown	Thomas Sanborn	27
Geyser	A.D.Hunter	45
Huntley Project*	B.F.Gaither	194
Ismay	V.T.Carmichael	52
Jordan (Garfield Co.)	E.F.Slaght	120
Judith Gap	Carl Ruckman	43
Klein	T.E.Smalley	94
Lavina	C.R.Mattill	43
Malta	J.H.Lesselyong	202
Melstone	L.C.Howard	45
Miles City	R.H.Wallin	751
Moore	Joseph Lindseth	40
Park City	A.O.Nelson	53
Plevna	A.V.Himsl	55
Rapelje	Theo. Molendorp	48
Ringling	T.F.Hogg	29
Ryegate	A.W.Kraft	72
Terry	W.L.Emmert	160
Turner	Lyle Cooper	59
Windham	Chas. Hood	36
Winnett	J.H.Gaines	99
	Total	4470

*Returns not complete

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Klein, Montana
March 15, 1935

Mr. Carl M. Gunderson, Principal
Dutton, Montana

Dear Mr. Gunderson:

Enclosed are copies of a questionnaire by means of which I plan to secure a factual basis for my Master's Thesis and at the same time explore a worthy field. I have tried to eliminate questions which call for lengthy answers and the questionnaire covers only one sheet. Will you and each of your high school teachers please fill out one of these and then return them in the enclosed envelope?

In submitting this questionnaire the major difficulty is that of securing the return of a good percentage. Therefore, I shall greatly appreciate your assistance if you can possibly see fit to give it. In order to lighten the burden I am asking you to assume, I suggest the following methods of presenting these to your teachers:

1. Present them at a teachers' meeting where they should be discussed, filled out, and handed back to you.
2. Give them to teachers individually with a date set for return of the questionnaire to you.

The first suggestion seems the most plausible because it will give you an opportunity to explain or discuss any questions which may arise and also complete the job in a very short time.

If this is handled in a teachers' meeting, would you stress the fact that this is on a per week basis? In Question 3, for example, multiply the number of pupils per day by five to get the answer needed. Some of these questions may not seem pertinent at first glance but they throw light on many important aspects of the teaching load. Some of the values of the results of this study to you as an administrator might be:

1. Comparison of your high school with other high schools as to the average teaching load.
2. Comparison of specific teaching loads in your own school.
3. Comparison of specific teaching loads in your school with approximately the same ones in other schools.
4. Statistical facts which you may present to your school board in demanding more teachers.
5. Comparison of estimates (subjective) of time spent outside of class and of school by teachers in your school and in other schools.

This material will be used only for constructive comparison of various classes of schools and no names will be used. A summary of the results of this study will be sent to you and I wish to thank you in advance for your cooperation.

Sincerely yours,

J. M. Cheney

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INTRODUCTORY LETTER TO QUESTIONNAIRE

INTRODUCTION

Dear Fellow Teachers:

Our teaching profession is battling against depression, wages have fallen radically, materials and equipment are only partially available, tax returns are smaller because of reduced property valuations, many schools are over crowded with no relief in sight for the situation, and finally the teaching load of the high school teacher seems to be increasing each year. Studies have been made of the first four of these questions, but the subject of the teaching load is as yet untouched in our state. The material needed can be gathered only from the teachers themselves as it is compiled definitely at no other source.

While the questionnaire has been over-worked as a method of securing facts I feel that a brief and purposive questionnaire still has its place. It is hoped that professional pride and desire to place teaching on the same high plane as other professions will impel the high school teachers of Montana to give their support to this study. More real scientific study of teachers' problems will do much to place teaching on the high plane it deserves.

Therefore, I am asking your cooperation in my study of "The Teaching Load in Montana High Schools." This study is based upon the theory of Harl. R. Douglass, Professor of Education at the University of Minnesota. I plan to base my study upon results obtained from questionnaires sent to five hundred Montana teachers. I have tried to make my questionnaire concise, definite, and purposive.

My purposes in this study are:

1. To determine the average teaching load in the state of Montana in large and small high schools.
2. To compare the teaching load of the small high school with that of the large high school.
3. To create a basis by which the teaching load of the average Montana teacher may be compared with that of other states.
4. To try to determine in future years just what effect the depression has had upon the work of teachers.
5. To try to determine just what teaching load will secure the best results.
6. To impress upon the minds of the public and teachers the injustice of the large teaching load.
7. To determine how the teaching load may be lightened in face of existing conditions.
8. And last but not least--to secure a factual basis for my Master's Thesis from the University of Montana.

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QUESTIONNAIRE

The purpose of this questionnaire is to furnish data for an impersonal and unbiased analysis of the teaching load of high school teachers in Montana. Please fill out the following blanks and return in the enclosed envelope. All information is strictly confidential. There will be no comparison of specific high schools or teachers as to the relative teaching loads.

The formula to be used to measure the teaching load is as follows:

$$TL = \left[\frac{CP}{10} - \frac{2Dup}{10} + \left(\frac{NP-20CP}{100}\right) + \frac{PC}{2}\right]\left[\frac{PL\ 55}{100}\right]$$

1. __class periods spent in classroom per week - count each double period as two class periods. (CP)
2. __number of class periods spent in classroom per week teaching classes for which the preparation is very similar to that for some other section, not including the original section. Count each double period as one unit of duplicate preparation over and above any other allowance made for duplicate preparation. (2Dup)
3. __number of pupils in classes per week - count the number of pupils for each half of double period. (NP)
4. __total length in minutes of each class period. (PL)
5. Class periods (or equivalent of) per week spent in cooperations: (P)
   (1) __Study hall supervision.
   (2) __Supervision of student activities.
   (3) __Teachers' meetings.
   (4) __Assisting in administrative or supervisory work.
   (5) __Music.
   (6) __Regular physical education classes.
   (7) __Coaching athletics (estimated time per week) throughout year.
   (8) __Dramatics.
   (9) __Hall duty, etc.
   (10) __Correction of papers.
   (11) __Preparation for class periods.
   (12) __Community activities.
6. Check five (5) factors which you feel are the cause of a heavy teaching load.
   (1) __Too many daily subject preparations.
   (2) __Too great a variety of subjects.
   (3) __Too many small classes.
   (4) __Inadequate reference books, maps and equipment.
   (5) __Classes too large.
   (6) __Too much extra-curricular work.
   (7) __Subjects taught outside of field of preparation.
   (8) __Social obligations too excessive.
   (9) __Last minute assignment of subject to be taught.
7. Subjects taught _____, _____, _____, _____, _____, _____.
8. Full name of teacher - desired, but not necessary_____
9. Is your teaching load heavier this year than last?_____
10. Name of high school.
11. Please use back of sheet for any explanation or additional information.

Thank you - a summary of the results of this study will be offered to the "Montana Education" for publication.

Sincerely yours,

Truman M. Cheney

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A LETTER SHOWING THE INTEREST OF PRINCIPALS

COPY

Dear Mr. Cheney:

I received your postal of May 8 reminding me of the questionnaire you wanted answered before leaving at the end of the school year. I had not forgotten you. I carried your letter in my pocket for a month or more so as to be sure not to forget to tend to the matter.

I surely want a report of your findings. The subject you have selected is not only interesting but timely. The whole country seems to be bent on creating more jobs but school districts have gone astray by trying to reduce the number and thus either drive the teachers out of the business or else "kill 'em off" by giving them a double load.

With kindest regards to you and Mrs. Cheney, I am

Very truly yours,

A. W. Kraft

Principal Ryegate High School

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A LETTER SHOWING THE INTEREST OF PRINCIPALS

COPY

Letter or Notation on back of questionnaire.

Figures are for second semester. Not a very great variation from first semister. However, I believe, in this problem you will have some difficulty in many schools. Now as I teach one class in 7th grade arithmetic, the 15 periods weekly do not reflect my true load. That will be true of all the Geyser teachers. The study will be so badly affected by this organization* of grades 7,8, 9, 10, 11, and 12 under four teachers that it might be advisable to make a special division in your study for such groups or leave them out entirely. There are a number of schools in Montana organized as we are. In a few years, if you plan on following up the work, you will undoubtedly find more organized as we are.

Please let me know if I can be of further assistance in this fine piece of work you are attempting.

Good Luck,

A. D. Hunter

Prin. Geyser Schools

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*Not more than five schools used this system.

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SUBJECT COEFFICIENTS FOR 28 TEACHING LOADS

TEACHING LOAD	SUBJECTS	COEFFICIENTS	TEACHING LOAD
29.5	Mathematics	1	29.5
29.9	Commercial	.8	29.90
31.45	Science	1.1	34.595
31.45	English	1.1	34.595
33.35	Smith-Hughes	.8	26.68
34.45	Science	1.1	37.895
34.77	English	1.1	38.247
35.00	English	1.1	38.50
35.50	English	1.1	38.05
35.50	Mathematics	1.1	35.50
36.00	Commercial	.8	36.00
36.62	English	1.1	40.282
38.00	History	1.1	41.80
38.90	Science	1.1	42.79
39.12	English	1.1	43.032
39.19	Commercial	.8	39.19
40.20	Commercial	.8	40.20
42.37	Mathematics	1.1	42.37
42.80	History	1.1	47.08
43.00	Social Science	1.1-	47.30
43.10	Smith-Hughes	.8	33.48
43.15	Smith-Hughes	.8	34.52
43.33	Commercial	.8	43.33
43.85	Home Economics	.8	35.080
44.44	English	1.1	48.884
47.08	Commercial	.8	47.08
49.95	English	1.1	54.945
55.05	Commercial	.8	51.65

These computations are discussed in Chapter IV of this study.

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SUBJECT COMBINATIONS OF 167 HIGH SCHOOL TEACHERS

SUBJECT COMBINATION	FREQUENCY
English	15
English, History	8
English, Foreign Languages	8
English, Home Economics	1
English, Foreign Languages, History	6
English, Commercial	8
Science	10
Science, English	3
Science, Commercial	2
Science, Mathematics	13
Science, English, Mathematics	1
Science, Commercial	2
Science, English, Commercial	1
Science, Mathematics, Commercial	2
Science, Mathematics, Languages	1
Mathematics	9
Mathematics, Languages	1
Mathematics, English, Commercial	1
Mathematics, Commercial	2
Mathematics, English	2
History or Social Science	12
History, Foreign Languages	4
History, Science	7
History, Science, Mathematics	6
History, English, Mathematics	2
History, Mathematics	6
History, Foreign Language, Mathematics	1
History, Commercial	2
History, English, Mathematics, Science	1
Foreign Languages	2
Music	1
Orchestra	1
Fine Arts	1
Commercial	12
English, Foreign Languages, Commercial	2
Agriculture	4
Home Economics	2
Home Economics, Science, Agriculture	1
Mathematics, Home Economics	1
History, Home Economics	2
History, Agriculture	1

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THE UNIT TEACHING LOADS (TL) OF 167 MONTANA TEACHERS

11.79	36.25	40.99	44.00
21.85	36.50	40.99	44.25
23.32	36.62	41.02	44.31
23.45	36.65	41.15	44.34
23.58	36.74	41.25	44.37
24.32	37.05	41.28	44.39
25.25	37.09	41.37	44.44
25.59	37.49	41.37	44.50
28.67	37.70	41.45	44.60
29.50	37.73	41.49	44.70
29,50	37.78	41.55	44.71
29.90	37.95	41.61	45.10
30.10	38.00	41.70	45.20
30.75	38.16	41.72	45.60
31.45	38.45	41.75	45.70
31.75	38.52	41.80	45.74
31.88	38.53	41.84	46.00
31.91	38.59	41.89	46.23
31.95	38.90	41.90	46.27
32.14	39.12	42.03	46.29
32.20	39.15	42.03	47.08
32.25	39.19	42.12	47.09
32.75	39.71	42.14	47.26
32.80	39.75	42.28	47.54
32.81	39.77	42.30	47.60
33.35	39.85	42.30	47.85
34.07	40.02	42.35	47.90
34.15	40.18	42.37	48.45
34.45	40.20	42.43	48.70
34.84	40.22	42.70	49.10
34.85	40.25	42.78	49.50
35.00	40.26	42.80	49.75
35.50	40.28	42.88	49.81
35.50	40.28	43.00	49.95
35.50	40.50	43.10	51.04
35.77	40.50	43.10	51.14
35.95	40.51	43.15	53.64
36.00	40.64	43.16	54.73
36.00	40.69	43.38	55.05
36.05	40.70	43.50	57.80
36.16	40.70	43.73	
	40.75	43.76	
	40.94	43.85	
		43.95	

Contents treated statistically in Chapter III.

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THE UNIT

TEACHING LOADS OF LARGE AND SMALL HIGH SCHOOLS

LARGE SCHOOLS (61)		SMALL SCHOOLS (86)	
28.67	42.70	21.85	41.80
29.50	42.78	23.32	42.03
29.50	42.80	29.90	42.12
31.45	43.10	30.10	42.35
31.95	43.16	30.75	42.37
32.80	43.50	31.45	42.58
32.81	43.73	31.88	43.00
33.35	43.76	31.91	43.10
34.45	43.85	32.20	43.15
35.00	44.25	32.25	43.38
35.50	44.39	33.75	43.95
35.50	44.70	34.07	44.00
36.16	44.71	34.84	44.31
37.05	45.10	35.50	44.34
38.90	45.74	35.77	44.37
39.71	46.29	36.00	44.44
39.75	51.14	36.00	44.50
39.77		36.05	45.10
40.22		36.50	45.20
40.28		36.62	45.60
40.28		36.65	45.70
40.50		36.74	46.00
40.51		37.09	46.23
40.69		37.49	46.27
40.94		37.70	47.08
40.99		37.73	47.09
41.02		37.78	47.26
41.15		37.95	47.54
41.28		38.16	47.60
41.34		38.45	47.85
41.37 Median		38.53	47.90
41.49		39.12	48.45
41.55		39.15	48.70
41.61		39.19	49.50
41.72		39.85	49.75
41.75		40.20	49.81
41.84		40.25	49.95
41.90		40.26	51.04
42.03		40.64	53.64
42.03		40.70	54.73
42.14		40.70	55.05
42.28		41.25	57.80
42.30		41.45 Median	
42.43	Mean = 40. Units	41.70	Mean = 40.28 Units

These figures are treated statistically in Chapter III.

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NUMBER OF PUPILS PER WEEK FOR 167 TEACHERS

120	375	570	680
125	380	570	700
135	380	570	700
195	380	575	700
200	385	580	705
205	395	585	710
234	400	585	715
235	420	586	715
240	420	590	720
250	423	595	720
250	425	595	720
250	425	600	735
260	436	600	740
275	440	600	750
285	440	600	750
290	444	610	755
275	445	610	765
285	455	610	775
290	460	615	795
290	470	620	805
295	470	621	845
300	473	625	850
300	475	623	850
300	475	623	850
315	480	625	925
315	490	625	1025
325	490	623	1050
324	495	625	1060
340	495	630	
340	495	630	
345	497	635	
345	500	635	
347	500	635	
348	504	640	
350	510	645	
350	510	643	
350	510	650	
355	515	650	
360	325	650	
360	525	655	
360	525	655	
360	535	660	
365	537	665	
370	540	665	
370	550	665	
370	553	675	
	555		
	565		

Contents treated statistically in Chapter III.

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THE TEACHING LOADS PER WEEK OF TWENTY PRINCIPALS

TEACHING LOADS	NUMBER OF PUPILS	NUMBER OF CLASSES
49.10	250	5
44.60	347	5
40.75	350	4
40.50	490	4
40.18	495	4
40.02	620	4
38.59	475	4
36.25	350	4
35.95	340	4
34.85	315	4
34.15	295	4
32.14	290	3
31.75	285	3
30.79	275	3
27.78	250	3
25.59	235	3
25.25	225	3
24.32	195	3
23.58	135	3
23.45	125	3

Average = 33.97

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BIBLIOGRAPHY

Anderson, E. W., "The Teaching Load of the Beginner in High School", Educational Research Bulletin of Ohio State University, VIII (1928), pp. 280-281.

A study of the heavy load of beginning teachers in terms of subjects, preparations, student hours and cooperations.

Baer, Joseph A., "Teaching Loads in Junior and Senior High School in Largest Cities", Educational Research Bulletin of Ohio State University, VI (February 16, 1927) pp. 73-75.

The unit in this study is the pupil-clock-hour. Cooperations are studied and a great variation is found in all factors.

Bain, L. C., "Measures of Secondary School Organization", Educational Research Bulletin XIV (November, 1935), pp. 201-7.

The study is based on the average number of pupil-periods in class per week, per teacher for a school. He found the average number of classes per week to be 27.8 and the average number of pupils per class to be about 35.

Baker, H. L., "Class Size Does Make a Difference", Nations Schools, XVII, (February, 1936), pp. 27-28.

A study of 27 teachers and 250 children, comparing large and small classes. He concluded that on the basis of personality traits, the small class led by a considerable margin.

Bengston, Caroline, "Depression and Class Size", School and Society, XXXV, (May 14, 1932), pp. 675-6.

A discussion of the large class and its drawbacks, unemployment, salaries and tenure.

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Brady, K., "Depression and the Classroom Teacher", National Educational Association Journal, XXII, (December, 1933) pp. 263-4.

Cites the teacher of 1933 as meeting eighty more pupils per day than the one of 1925. Large classes are not justified and are inconsistent with the democratized school. Conditions are a detriment to child, teacher and school system, and should be remedied.

Brown, E. J., and Fritzmeier, L. H., "Some Factors in Measuring the Teacher's Load", Educational Administration and Supervision, XVII, (January, 1931), pp. 64-70.

Lists the factors to be studied and submits a formula. He concludes that a study of the teaching load should improve the moral tone of the school.

Carpenter, W. W. and Capps, A. J., "Wasting Human Power", School Board Journal, XCI, (August, 1935), pp. 32 & 58.

Criticises tax-payers idea of cutting down to a minimum of subjects. Some of the most practical ones are left out of the curriculum. There is vast waste of human power resulting from the overloaded teacher.

Cormick, Homer H., "How Can the Small High School Limit Teachers to Subjects in which they are Specifically Trained?", California Quarterly of Secondary Education, VI, (June, 1931), pp. 406.

Use of the 6-6 plan in Davis Joint Union High School. Not a very extensive article.

Cowing, Helen, "A Teacher's Time", School Review, XXXI, (June, 1923), pp. 351-362.

A study of 108 teachers from nine states. Median amount of time for school week was 47.5 hours. Secures medians for other phases. Concluded that since time has been studied, a study of energy expended would prove interesting.

Crofoot, Mentha, "Amount of Time Spent in Schoolwork in Terms of teacher hours and pupil hours.", Educational Administration and Supervision, XVII, (September, 1931), pp. 446-452.

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A study of the time spent in Bremerton, Washington schools. Found variations in time spent by elementary and secondary teachers. Time estimates seem high.

Davis, C.O., "Our Secondary Schools", Bulletin of the North Central Accrediting Association, 1925, pp. 25, 38-39, and pp. 63-64.

A comparative study of the Non-Public and Public schools accredited by the North Central Association. Summaries of the Teaching load are good.

Davis, C. O., "The Size of Classes and the Teaching Load in High Schools Accredited by the North Central Association", School Review, XXX, (October, 1922), pp. 592 ff.

An investigation of 1100 teachers. Studies of grades in comparison to class size, period length, time spent on cooperations per day and professional reading.

Dean, Stuart, "Teachers' Working Day", Nations Schools, XVII, (April, 1936), p. 41.

An analysis made on the basis of time spent in and out of school, in hours and minutes and per cents for each. Very brief but comprehensive.

Douglass, Harl R., The Organization and Administration of Secondary Schools, Boston, 1932, pp. 108-128.

A complete discussion of the factors involved in the teaching load and a formula for measuring it. Contains a very good bibliography and was the most basic reference. Most advanced and up-to-date reference on the subject.

Douglass, Harl R., "Means of Measuring the Teaching Load in High Schools", Nations Schools, II, (October, 1928), pp. 22-25.

States that high school load is three times that of college teachers. Original article concerning his theory and factors measured--developed fully in textbook written by him.

Douglass, Harl R., "Means of Measuring the Teaching Load in the High School", High School Teacher, X, (April, 1934), p. 102.

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Increasing the load of high school teachers is poor economy and poor recovery procedure. The effect of large classes upon the development of personality, character, permanent interest, inspiration, and ideals, has never been measured although scholarship has. Relieve some unemployment. Explained a simple device for measuring the teacher's load.

Douglass, Harl R. and Saupe, E. M., "The Professional Load of the Teachers in the Secondary Schools of Iowa", School Review, XXXIII, (June, 1935), p. 428.

Based on the same formula as this study. Used difficulty coefficients. Interesting conclusions.

"The Education of Teachers in New York State", (Results of a study--no author given), School and Society, XXXIV, pp. 364-5.

A summary of results of a study in that state. Median for age, experience, tenure, classes taught, etc. are given. Not usable except for classes taught which is very different.

Edgerton, A. H., Vocational Guidance and Counseling, New York, 1926, p. 19.

A discussion of the variation of pupil maturity.

Fitzpatrick, E. A. and Hutson, P. W., "The Scholarship of Teachers in Secondary Schools, New York, 1927, pp. 1-62 (Part II).

A study of 261 teachers in Pennsylvania and 162 teachers in California. Comparisons are made with the studies of Woody and Koos and the study of the College of Education, University of Minnesota, 1923.

Grizzell, E. D., "A Comparison of Standards for Secondary Schools of Regional Associations", Seventh Annual Yearbook of the Department of Superintendence, (1929).

Similarities of the four regional associations in teaching load standards.

Grienan, John T., "The Teacher's School Week", School Review, XXX, (October, 1922), pp. 592-603.

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A study of 53 teachers in the New Jersey schools. Average time spent was 40 hours. Suggestions of teachers were fewer and simpler reports, student assistants, secretarial help, special teachers for study hall, elimination of poorest students, etc.

Holy, T. C., "Teaching Load and the Efficiency of Instruction", Ohio State Educational Conference Proceedings of the 11th Annual Session.

An experiment whereby the pupil factor was compared on the basis of class size, only English efficiencies were measured. Teachers changed classes at the end of the year. Conclusion - each taught six large classes as effectively as six small ones.

Hudelson, Earl, "Class Size in High Schools", National Association of Secondary School Principals, Bulletin No. 15, (March, 1927).

Economy as a cause of increased teaching load. Study of factors especially class size. Teachers' suggestions for lightening the load.

Hutson, P. W., "Neglected Factor in the Teaching Load", School Review, XXX, (March, 1932), pp. 192-203.

Neglected factor is over class size. Study computed in pupil recitation hours.

Koos, Frank H., "A Study of the High School Teaching Load of 236 Minnesota High School Teachers". An unpublished thesis deposited in the library of the University of Minnesota.

An analysis of the teaching load in terms of minutes and hours actually spent. The author had access to this for a short time and found many suggestions as to procedure. For final study this thesis could not be secured.

Koos, L.V. and Woody, Clifford, "The Training of Teachers in the Accredited High Schools of the State of Washington". Eighteenth Yearbook for the Study of Education, pp. 215-257, (1919).

A study of 496 accredited high schools in the state of Washington. Subjects taught, subject combinations, and preparation of teachers were studied. Conclusions made in each field.

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North Central Association Quarterly, X, 1, (July, 1935), pp. 99-100.

A list of schools belonging. Procedures for accrediting and recommendations.

Nuttall, James, "A Study of the Teaching Load in the Small High Schools of Utah, Masters Thesis, Brigham Young University, Provo, Utah, (1930).

Divides high schools into five classes and makes many tabular comparisons and classifications.

Pauly, Frank R., "Studying Class Size and the Teacher Load", Nations Schools, XVI, (October, 1930), p. 20.

Discusses small and large classes and effect on pupil-teacher morale. Also discusses use of limit plan others as to adaptability in various classes. A complete study of each teacher and her activities as well as the administrative side of lightening the load in Tulsa, Oklahoma, schools.

Peterson, E. T., "Teaching Load", Review of Educational Research, I, (April, 1931), pp. 92-98.

Summary of studies made in 1927 to 1931, on all phases of the teaching load, especially class size and periods.

Procedures Formulated by the State Board of Education for Accrediting Montana High Schools, (Bulletin, pp. 9, 13-14).

Basis for accrediting and recommendations for Montana schools.

Quanbeck, M. and Douglass, Harl R., "Teaching Loads in High Schools", Nations Schools, XV, (February, 1935), pp. 37-39.

A study using the Douglass formula with coefficients. 129 schools and Minnesota teachers were studied. Very modern and usable study for anyone.

"School Costs and the Teacher Load", American School Board Journal, XXCIII, (September, 1931), p. 111.

An unsigned article concerning reduction of costs and the increase of teacher loads.

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Tritt, W. W. and Keys, M. M., "Estimating Teaching Loads by Means of Subject Coefficients", The Nations Schools, Vol. V, (April, 1930), pp. 61-65.

A study based on the opinion of 91 teachers in Belmont, High Schools of California. Established basis for difficulty coefficients.

"The Teaching Load in 136 City High Schools. (City School Leaflet No. 9), Government Printing Office, Washington, D. C., United States Department of the Interior. (1923).

A teachers load survey of 136 high schools conducted by a faculty committee of Polytechnic high schools in California.

Ward, W. A., "Figuring the Teaching Load", Nations Schools, XVII, (March, 1936), p. 22.

Gives a comprehensive and simple formula for computing the teacher load. Exactness of result easily questioned.

Woodbridge, F. W., "Stimulating Scholarship", High School Teacher, XI, (January, 1935), pp. 6 ff.

A good description of the subjective side of the heavy teaching load. Losses in motivation, too much specialization of subjects, and general background of teacher.

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