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April 10, 1981

TO: Representative Don Clocksin
Chair, House HESS Committee

FROM: NEA-Alaska

RE: HB 353

MEMORANDUM OF SUPPORT

NEA-Alaska respectfully requests and urges that the House HESS Committee favorably act upon and forward this bill. Passage of this legislation would result in better, quality education in Alaska. This legislation would place limits on the number of students in school classes.

There are currently public school classrooms around the state which have more students than this bill permits. It is our opinion that, as a consequence, students in these classes do not receive as good an education as they otherwise would or should receive.

Two studies, completed in 1978 and 1979 by Drs. Gene Glass and Mary Lee Smith on all research conducted in the last 50 years on class size demonstrate the positive results of lower class size. Glass and Smith found four significant consequences of lowered class size:

- *The lower the class size, the greater the student achievement.
- *The lower the class size, the better the teacher morale. Teachers like their pupils better, have time to plan and diversify, and are more satisfied with their performance.
- *The lower the class size, the more opportunities there are to adapt learning programs to individual student needs. Students tend to be more directly and personally involved in learning.
- *The lower the class size the more students are interested in learning. Students seem to exhibit less apathy, friction and frustration. They seem to have more interest in learning.



NEA-Alaska also supports this bill because it allows for a flexible approach to dealing with the varied classroom needs around the state. If the bill's size limits did not fit a district's local circumstances, different limits could be negotiated. Furthermore, a district's superintendent and teachers could seek a 20% increase on the limits specified in the bill from the Commissioner of Education.

HB 353 is also supported by NEA-Alaska because it recognizes and accommodates the presence of exceptional students in the regular classroom. Students with special needs are placed in regular classrooms as much as possible under both federal and state requirements. This places additional demands and loads on the regular classroom. This bill recognizes this fact by giving students with exceptional needs additional "weight" when the number of students allowed in a classroom is determined. Similar weighting plans have been used in Lodi, California and Denver, Colorado with great success.

HB 353 provides a realistic, constructive approach to reducing class-size in overcrowded Alaskan classrooms. The resultant improvements in classroom instruction and student achievement would be valuable. Consequently, we urge your favorable consideration of this legislation.

Thank you for your consideration.

JA:jw

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Handwritten notes: "Gene Glass - bill will be filed on X-13 soon" and "File this in backup file" with a circled 'S'.

The Class Size/Achievement Issue: New Evidence and a Research Plan

by Leonard S. Cahen and Nikola N. Filby

Using "meta-analysis," Gene Glass and Mary Lee Smith have discovered important student achievement gains when class size is reduced to 15 or below. Cahen and Filby are now involved in intensive field study of the whys and hows of these gains.

On the average, student achievement increases as class size is reduced, and the advantage rises sharply for a class of 15 and below. Reductions in size of from, say, 28 to 25, are projected to make only a small difference in average achievement.

These are perhaps the most significant conclusions reached in a new "meta-analysis" of half a century of research, performed as part of a project in class size and instruction being conducted by the Far West Laboratory for Educational Research and Development with National Institute of Education funds.

Gene Glass and Mary Lee Smith of the University of Colorado were responsible for the meta-analysis. At the same time, a complementary and converging approach to the question of class size/achievement relationships was undertaken and is continuing. A small number of field studies were designed in which class size is experimentally controlled and intensive observation of classroom procedures is being conducted. A chief object is to find out what aspects of instruction in smaller classes account for the achievement advantages.

The remainder of this article will detail

the procedures, findings, conclusions, and policy implications of the Far West project.

For the research synthesis, we felt that the new approach called meta-analysis would prove to be a powerful way of resolving some of the inconclusive findings reported in the literature. Glass, a primary developer of meta-analysis methodology, reported that the class size/student achievement literature might lend itself to the technique.¹

Meta-analysis provides a method for the statistical integration of data across many studies.² Studies of psychotherapy and tutoring, among other fields, have already been integrated via meta-analysis. Meta-analysis proceeds by calculating the size of one or more measures of effect in each study, then pools these measures as data points for further analysis. In the case of class size studies, each data point is a measure of the difference in achievement between two classes of different size.

Glass and Smith first obtained and read some 300 reports, publications, theses, etc., that reported findings on class size and achievement. The search was made through ERIC, dissertation abstracts, research reports and reviews,³ and from nominations and suggestions from other researchers. Glass and Smith found current reviews by Doris Ryan and T. Barr Greenfield⁴ and C. D. Laffeur, R. J. Sumner, and E. Witton⁵ very helpful. Only 77 of the 300 documents could be used. They yielded 725 comparisons of achievement in different class sizes. Many studies yielded multiple sets of data. For example, one might report achievement data for reading, mathematics, and science for three grade levels, thus yielding nine comparisons. The studies provided a data set based on nearly 900,000 pupils and

spanned over half a century. Sixty-five percent of the comparisons were obtained from journals, approximately 16% from books, and 11% from unpublished sources. Approximately 3% came from theses, a source not generally tapped in prior examinations of the literature. Approximately 56% of the comparisons were obtained on children whose ages ranged from 5 to approximately 11½ years.

As expected, most of the studies compared class size in the range of 20 or larger. Comparisons of classes of about 26 pupils with classes of more than 30 were common, 10 with 20 far less so. For many years researchers expected to see dramatic differences between class sizes of 25 and 28.

Glass and Smith define class size as the pupil-to-instructor ratio (P/I). One teacher with 30 pupils gives a P/I of 30, two with 30 a P/I of 15. One teacher doing supplementary math instruction with four pupils gives a P/I of four. The search for an appropriate descriptive ratio has a long history in the research on class size.⁶ Any ratio is, at best, a crude indicator of how much teacher attention any pupil receives. One hopes that as the total number of pupils in a class decreases, the teacher will be able to provide more appropriate, personal instruction for every pupil. How to help teachers take advantage of reduction in total class size becomes a crucial issue, to be discussed later.

Glass and Smith define "delta" as a key concept. A statistical index of the achievement advantage of one size class over another size class, delta is defined as the mean achievement score for the smaller class in a study minus the mean of the larger class in the study, the difference then being divided by the within-group

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standard deviation. To illustrate, Class A has 10 pupils. Class B in the same study has 20. The students in each class are given an achievement test of 50 items. The mean for Class A is 35. The mean for Class B is 30. The within-group standard deviation is 10. The delta for this hypothetical case would be .5, i.e., $(35-30) \div 10$. Delta is a standard score. Its value can be positive, negative, or zero. Assuming a normal distribution, a delta of plus one is one standard deviation above the mean and has a percentile rank of 84. A delta of plus .5 represents the 69th percentile.

The calculation of delta is straightforward when means and standard deviations are given and when the standard deviations are equal, but these conditions are not always met. Glass worked out formulas for estimating delta from other common statistics, such as a correlation coefficient. Problems can arise in defining the within-group standard deviation when the groups differ widely in variability. In this case the estimate of delta may be biased. Continued work on the methodology of meta-analysis, as developed by Glass, will need to study the effects of heterogeneous variability on the magnitude of deltas and the relationship of the deltas to other variables in the studies being examined.

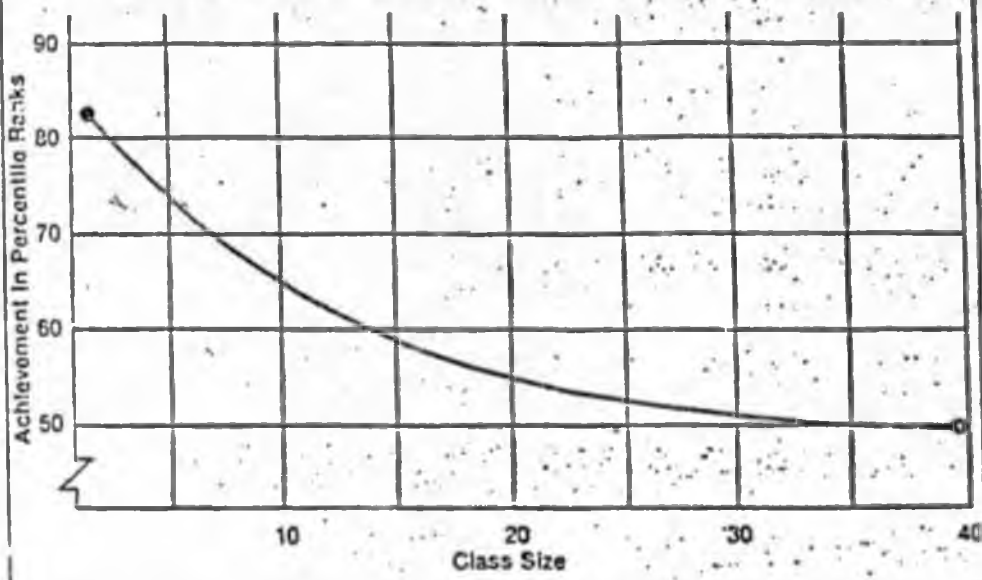
Of the 725 deltas calculated, 60% were positive, indicating that achievement was higher in the smaller class. The average delta was .09. Further analysis revealed two important interactions: The size of the difference depended on the sizes of the classes being compared; it also depended on the quality of the research design. Effects were stronger in studies having good design characteristics — e.g., where pupils were randomly assigned to classes or were "matched," or where the same teachers or pupils participated in both the smaller and the larger class. The average delta in well-designed studies was .40.

To take into account the influence of different class sizes, a regression model was developed to predict delta. After preliminary models were tried, the final system predicted delta (advantage of smaller over larger) from three variables: 1) number of students in the smaller class; 2) square of the number of students in the smaller class; 3) difference between the number of students in the smaller class and the number of students in the larger class. The regression model was used to generate a graph of predicted achievement. Predicted achievement scores were transformed to a percentile rank on a hypothetical nationally normed standard achievement test. The Glass-Smith curve for well-designed studies is shown in Figure 1.

In this figure the curve starts to rise most dramatically when class size is reduced below 15 pupils. The average pupil in class sizes of 40, 30, 15, 10, and five

Figure 1. The Glass-Smith Curve of Achievement and Class Size

(Data integrated across approximately 100 comparisons from studies exercising good experimental control.)



would be expected to score at the 50th, 55th, 58th, 65th, and 75th percentiles respectively. The predicted outcome difference can be described in grade-equivalent units over one school year: 1.00 years of growth for class size 40, 1.15 years for size 20, 1.24 years for size 15, 1.45 years for size 10, and 1.72 for size five. These data show an impressively large advantage for smaller classes.

The overall difference in results between the well-controlled and poorly controlled studies was dramatic. The curve for the poorly designed studies was almost flat, indicating, at best, a very small advantage to smaller classes. Almost half of the deltas came from the poorly designed studies. Little wonder class size research has been so inconclusive.

Glass and Smith analyzed data separately for elementary and secondary pupils. Small-class advantages were slightly stronger at the secondary level. It is our opinion that the advantages are too small to lead to a conclusion that elementary pupils would profit less than secondary pupils if class size were reduced. There also appeared to be no difference in results for different subject matters, such as reading or mathematics.

The meta-analysis reports that there is no correlation between class size and achievement advantage in the studies performed before 1940. Over half the 725 deltas were from pre-1940 studies. It is not surprising that surveys of the literature prior to World War II typically concluded that reducing class size had no effect on achievement.

Over the next few months we plan to fit the Glass-Smith equation to data not analyzed when the model was developed. This will allow us to estimate the error in the model for different class size comparisons. We anticipate that new studies

will be identified, but these, like those available to Glass and Smith, will contain few data for class size smaller than 20, the range we believe to be crucial.

How does one judge the importance of the differences shown in Figure 1? Is the percentile advantage in achievement between class sizes of 15 and 30 big enough to make it worthwhile to reduce size by this much? Policy makers will have to decide. As researchers, we encourage the concept of utility. We regard the delta difference between class size 30 and 25 as relatively trivial. But the difference between class size 30 and 15 has utility. Enough pupils should profit to warrant pursuing ways of creating the smaller class. We acknowledge the economic difficulty of putting this judgment into practice. But we encourage investigations of reduced instructional group size for parts of the school day. More on this later.

A cautionary comment about the small changes in achievement above a class size of 20: Achievement tests measure only one aspect of instruction. They do not capture the quality or humanness of the classroom environment. Certainly larger classes permit less relaxed interaction with individual pupils. Teachers often feel overwhelmed and frustrated.

It is also important to point out that the Glass-Smith meta-analysis shows the relationship of class size and achievement without any attempt to see how this relationship is conditioned by a set of variables we shall call quality of instruction. It would be useful to find out whether, and how, good and poor teaching or environmental conditions alter the curve.

The Field Studies

The Glass-Smith meta-analysis indicates that, on the average, achievement

The field studies may show how to achieve even greater gains in small classes.

increases as class size decreases. If this is true, it must be because of some change in classroom instruction. With fewer pupils to attend to, a teacher should be able to improve the quantity and/or quality of instruction.

P. J. Porwoll and others have concluded that many qualities of classroom instruction, such as increased individualization, are improved when class size is reduced.⁷ Glass and Smith are now doing a meta-analysis of studies relating class size to classroom processes, student attitude, and teacher satisfaction. Teacher satisfaction is an important outcome to consider in its own right.⁸ It appears from the literature search that relatively few studies have systematically examined the question of how class size influences student achievement. The field studies undertaken by the Class Size and Instruction Project address this question.

The basic plan of the current field studies is to reduce class size experimentally and see what changes take place in the classroom. In each of two schools, we work with two second-grade classes, each taught by a single teacher. Midway through the year a third teacher is hired and some students from each class are moved to the new third class. Many methodologies are used to learn about the nature of schooling in the larger class situation (before the split), and this can be compared with what we learn when the classes are made smaller after the split.

An important aspect of the field studies is the role of the classroom teachers. We hope to make them collaborators in the investigation of an important educational question. As a research team, we shall form hypotheses about what might be different in a smaller class, and we shall collect evidence about what actually changes. The teachers are encouraged to "tinker," i.e., try new techniques. This means that the field studies are not a "clean" experimental test of class size but are instead a combination of class size experiment and in-service training for teachers. It is exactly this combination that we consider it important to study. Many people have suggested that reducing class size will have no effect if teachers do exactly the same thing in a small class as in a large one and that it is important to help teachers take advantage of the opportunity of a small class.⁹ In the field studies we work with the teachers to find out what it is possible to do in a small class. If we could consistently improve the quality of instruction as we reduce class size, then the increases in achievement should be even greater than

those shown in the Glass-Smith curve.

A major source of our perspective in describing classroom instruction is our previous work on the Beginning Teacher Evaluation Study (BTES).¹⁰ In our current work we hope to elaborate and extend the BTES model of instruction, thus building a cumulative research program.¹¹ BTES researchers, working with second- and fifth-grade classes, looked at a series of questions about pupil learning in mathematics and reading and how this learning was related to teaching behaviors and characteristics of classroom learning environments. The BTES study convinced us that the teacher controls learning conditions that are positively associated with pupil learning. For example, larger pupil achievement gains were associated with teacher monitoring of pupil behavior, the teacher's ability to diagnose pupil status and prescribe appropriate educational tasks (quantity and quality), and teacher feedback. Classes with larger gains were typically associated with teachers who held academic goals for their pupils and provided relatively large amounts of direct instruction. It was also observed that the teaching/learning environments in these classes were supportive. Teachers did not have to be punitive in order to have children learn. As we began to design our plan for the Class Size and Instruction Project, we wondered how the learning environments in classes could be changed if we reduced the number of pupils for whom the teacher had responsibility. If class size could be reduced by one-third or one-fourth, would the teacher be able to provide a more individualized form of instruction? Would the teacher be able to diagnose pupil needs better, assign more appropriate work, and monitor the work more frequently? Would pupils' "wait time" (waiting for teacher direction or help) be reduced? Would pupil/pupil and pupil/teacher interaction change?

How would teachers feel about teaching and their pupils when class size was reduced? Would there be more time for informal discussions with pupils? Would there be changes in the curriculum or learning activities such as more and different types of art or science lessons? Would pupils now be allowed to talk to each other as they worked?

The following categories of questions provide a framework for our inquiry: instruction, pupil/pupil interactions, pupil/teacher interactions, teacher planning, classroom environment, rule setting, interruptions and disruptions, diagnosis, assessment and pupil evaluation, teacher feedback, reward systems, teacher expect-

tations prior to splitting, and teacher evaluation of conditions before and after splitting.¹²

Two schools are participating in the study. One is a rural school near Charlottesville, Virginia, directed by Gail McCutcheon of the University of Virginia. Pupils are primarily low socioeconomic level blacks (60%). Before they were split in January, 1979, each class had about 14 pupils. Splitting reduced the classes to approximately 13 students each. Parent volunteers assist the teachers.

The second school is located in Oakland, California. Both second-grade classes prior to splitting were composed of 34 students, so size dropped to approximately 23 students per class after splitting in February, 1979. Classroom aides are used. There is a staggered reading schedule, meaning that half the students in a class come for an hour in the morning and the other half remain at the end of the day for their smaller group instruction in reading. Nikola Filby, one of the authors, teaches the class created by the split.

Methods of Data Collection

The central activity in the field study will be to document and describe differences in instruction before and after splitting. Research on teaching today is multidisciplinary and uses many approaches to knowing. Some researchers advocate the experimental method as the most powerful way of detecting teaching/learning relationships. Others feel that understanding can best be attained by spending many hours in classrooms watching the process, talking to teachers, etc. Many researchers like ourselves think it is wise to combine many methods: We observe and record what we see, we measure some dimensions, we ask our teachers to help us understand what we see. Our methodology includes both qualitative and quantitative approaches. The Oakland and Virginia researchers have developed descriptions of different approaches to inquiry being used in the study under the following headings: 1) "case study" observation, 2) interviews with teachers, 3) systematic, quantitative observation, 4) teacher journals, 5) achievement testing, 6) samples of student work, 7) photographs, and 8) later follow-up.¹³

Reporting the Findings

The detailed case studies of each class will be a major form for reporting our study findings. The case studies will document any changes between instruction in the large-class phase and the small-class phase. We hope to discover whether changes in instruction are a function of reduced class size. The case studies will also address more general questions about important characteristics of classroom in-

struction that should be understood regardless of class size.

It is our goal to blend the information obtained from the case studies, teacher logs, and interviews with the information obtained through quantitative records. The "numbers" gathered by systematic observation may help tell us if changes took place after splitting. The other sources of information can then, we hope, tell us how the changes took place.

Issues and Policies

To date, major reviews of the literature on class size have reported conflicting findings in the research.¹⁴ Some studies supported smaller class sizes; others did not. Reviewers generally found the literature complex and inconclusive. Some reviewers became pessimistic about the value of smaller classes.¹⁵ The Glass-Smith meta-analysis is unique because it represents a statistical synthesis that reveals general trends. Previous reviews and the conclusions drawn from them were primarily reached from an "arm-chair" synthesis of the literature. Studies were classified as supportive of smaller class size, larger class size, or inconclusive. The classifications were guided by the statistical significance reported. No evaluation was given in the counting or classification procedure to studies nearing conventional levels of significance. For example, studies showing probability levels greater than .05 would typically be classified as nonsignificant and thus be placed in the inconclusive category. In contrast, Glass and Smith used all the available data to develop a continuous distribution of effects and therefore move their analysis beyond the nominal classification of supportive (favoring smaller classes), nonsupportive (favoring larger classes), and inconclusive (failure to reject the null hypothesis). We feel that the new findings by Glass and Smith present a convincing case that average achievement increases as class size decreases, especially when class size is below 20 pupils per class. Earlier arguments that smaller classes cannot be justified on the basis of test scores must be reexamined in light of the Glass-Smith findings.

We must point out, however, that there are many exceptions to the general trend. Smaller is not always better. Previous reviews of the literature have done a commendable job of describing the limitations of past studies of class size and explaining how research in the area must depict the problem as interactive — a function of pupil characteristics, teachers and quality of teaching, subject matter taught, etc. Their reviews have also pointed out the need for understanding the complexities listed above in interaction with different outcomes: achievement, classroom processes, teacher morale, and pupil affect. The

No surplus, only underutilized teachers.

Glass-Smith analyses did not find any general interactions in the data; that is, class size effects were not noticeably different for children of different ages or abilities or studying different subjects.

But there were many instances in the data where small classes did not produce superior achievement. Two possible explanations are the nature of the teaching that takes place and imprecision in the construct "class size."

As discussed earlier, a number of people have pointed out that the effect of class size depends on the intervening classroom instruction. Poor teaching will not be effective, even in a small class. Teachers may need help in learning to use the personnel available in the small-class situation. We are exploring this issue in the field studies. Certainly anyone who plans to reduce class size should plan also to support and educate personnel to realize the potential.

From discussions of class size in the literature, it is clear that better designs are needed if we are to understand the complexities of instruction and how these complexities are influenced by the sometimes poorly defined global term "class size." Donald Pidgeon has described other characteristics of students and classrooms that influence the size of the job facing a teacher.¹⁷ He mentions homogeneity of pupils, classroom space available, and ancillary assistance available in the classroom. The concept of teacher load is discussed in the literature. While the term is usually used to describe the teaching responsibilities of secondary teachers, it applies to the elementary school as well. A teacher who has responsibility for grading essays probably has a different out-of-school workload than a shop teacher. The teacher who has many students learning English as their second language has additional teaching burdens. The problems created by disruptive students must be reckoned with in assessing teaching load responsibilities. The Class Size Committee of the Lodi (California) Education Association has attempted to weight factors in the classroom (i.e., number of slow learners, hyperactive pupils, bilingual pupils, etc.) in adjusting class size so that it better reflects the range of teaching responsibilities.¹⁸ All of these issues create complications in simplified indices such as class size.

In the end, one must face the central question: If smaller is generally better, is it generally worthwhile to make the change? In this period in our history we have many unemployed teachers. We also have a financial and political climate that resists spending. In the late spring of 1979,

in collaboration with Gene Glass and Mary Lee Smith, we shall commission reaction papers to the meta-analysis on class size and achievement and the second meta-analysis dealing with the relationship of class size and classroom processes, teacher satisfaction, and pupil affect. Within our funding restriction we shall seek reaction papers from teachers, administrators, economists, and researchers. These papers will serve to clarify and highlight the different viewpoints on class size and the trade-offs that must be made. In the end, individual states, communities, or parents must make their own value judgments.

We would hope that in discussions of class size many different alternatives will be considered. The data suggest that there is relatively little pay-off for small overall reductions (e.g., 28 to 25). Attention should be given to ways to make larger reductions in more limited situations. Flexible arrangements within a school might allow the creation of smaller instructional groups for part of the school day or for those students most in need of closer supervision or individual attention. Some school districts use a staggered schedule so that students spend part of the day in a smaller class. Paraprofessionals can help. The use of nonprofessional instructional staff (aides, parent volunteers, and pupil tutors) deserves careful attention. R. G. Siennett, A. L. Hyer and Robert M. McClure, and Beatrice A. Ward and William J. Tikunoff have discussed issues relating to the use of noncertificated personnel in classroom instruction.¹⁹ We would also hope that schools examine ways to rehire some of the many talented teachers who have lost their positions or cannot find teaching positions. We share the positions of John Corbally²⁰ and Herbert Walberg and Sue Pinzur Rasher²¹ that the large number of unemployed teachers should be viewed as an underutilization of talent, not as a surplus. It is interesting to ponder what instruction in schools could be with two professional teaching 30 pupils, at least for reading and mathematics in the primary grades.

We are concerned that the Smith-Glass curve may be interpreted by "budget at any cost" school administrators and citizens to mean that class size can be increased beyond 30 pupils without achievement deficit or other consequences.

We should emphasize that the present findings consider only student achievement as an outcome. Glass and Smith are presently completing a second meta-analysis for our project. This analysis will

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examine the relationship of class size, instructional processes, teacher morale, and pupil affect. The studies will include pieces of research that previously have not been integrated into most of the literature reviews. Their report is scheduled for publication later this spring. We can anticipate that this further analysis and the field studies will give a richer picture of the benefits of smaller classes. Certainly many teachers are convinced of the need for smaller classes. NEA President John Ryor has said that wages and class size were primary strike issues in 1978-79.²² In November, 1978 half of the Fresno, California, public school teachers struck in a dispute over class size. The school board had rejected the Fresno Teachers Association proposal to add an aide in elementary school classes with more than 33 students.

We need to consider a broad range of outcomes — the relationship between class size and the quality and humanness of the nation's schools. These concerns may make even small changes in class size worthwhile and may increase the impetus to find ways to create some small classes. We encourage educators and the public to think seriously about what we want our schools to be and how smaller classes might help make that image a reality.

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14. Lafleur, Sumner, and Witton, op. cit. See also New England School Development Council, *Class Size and Teacher Load* (Newton, Mass.: NESDC, April, 1975); Porwood, op. cit.; and Ryan and Greenfield, op. cit.
15. J. M. Stephens, *The Process of Schooling: A Psychological Examination* (New York: Holt, Rinehart and Winston, 1967).
16. Lafleur, Sumner, and Witton, op. cit. See also Otto and von Borgerstrode, op. cit.; Porwood, op. cit.; Ross and McKenna, op. cit.; Ryan and Greenfield, op. cit.; and Vincent, op. cit.
17. D. Pudgen, "Class Size as a Factor of Pupil Performance: A Policy Analysis," *New Patterns of Teacher Education and Tasks* (Paris: Organization for Economic Cooperation and Development, 1974).
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19. R. G. Siemens, "Class Size: Confrontation or Constructive Compromise?" Speech given before the annual conference of the Ontario Educational Research Council, 1973. (ED 087 099). See also A. L. Myer and Robert M. McClure, "New Patterns of Teacher Tasks and Their Implications," *New Patterns of Teacher Education and Tasks* (Paris: Organization for Economic Cooperation and Development, 1974); and Beatrice A. Ward and William J. Tabunoff, "Utilizing Non-Teachers in the Instructional Process," in Daniel L. Duke, ed., *Classroom Management*, National Society for the Study of Education (Practical, 1979).
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21. Herbert Walberg and Sue Pinter-Risher, "The Way Schooling Makes a Difference," *Pan Delta Appraiser*, May, 1977, pp. 793-87.
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DEPARTMENT OF EDUCATION

POSITION PAPER HB 353

February 26, 1982

The State Board of Education is opposed to this bill.

A handwritten signature in cursive script, appearing to read "Marshall L. Lind", written over a horizontal line.

Marshall L. Lind
Commissioner

*Would local parents support local Sch. Boards
by increases in property taxes to fund decrease class loads?*

Introduced: 3/18/81
Referred: Health, Education &
Social Services and Finance

BY MILLER, BUCHHOLDT, CLOCKSIN,
COTTEN, GARDINER, HALFORD, DUNCAN,
BROWN AND PHILLIPS

1 IN THE HOUSE

2 HOUSE BILL NO. 353

3 IN THE LEGISLATURE OF THE STATE OF ALASKA

4 TWELFTH LEGISLATURE - FIRST SESSION

5 A BILL

6 For an Act entitled: "An Act relating to school class size; and providing
7 for an effective date."

8 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

9 * Section 1. AS 14.03 is amended by adding new sections to read:

10 Sec. 14.03.150. MAXIMUM CLASS SIZE. (a) Except as provided in
11 (c) and (d) of this section, the number of pupils taught in a classroom
12 may not exceed 23 in kindergarten through third grade and 26 in fourth
13 through twelfth grade. The overall pupil to teacher ratio in a school
14 district or regional educational attendance area may not exceed 23
15 pupils to one teacher for kindergarten through third grade and 26
16 pupils to one teacher for fourth grade through twelfth grade.

17 *7500 Holt*
(b) For purposes of this section the classroom size is determined
18 by using the average daily membership during a school year, adjusted by
19 the factors set out in AS 14.03.160.

20 (c) On written request of the chief administrator of a school and
21 the bargaining agent representing the certificated staff of that school,
22 the commissioner may increase the class size limits in this section by
23 up to 20 percent.

24 (d) Matters pertaining to class size and pupil to teacher ratio
25 shall be subjects for negotiation with a school board if negotiation is
26 requested by the bargaining agent representing the certificated staff
27 of the school district or regional educational attendance area. The
28 bargaining agent representing the certificated staff and the school
29 board may agree to a class size or a pupil to teacher ratio which

1 exceeds the limits prescribed in (a) and (c) of this section. If an
 2 agreement relating to class size or pupil to teacher ratio reached as a
 3 result of negotiations under this subsection results in a need for
 4 additional money for staff, facilities, equipment, or materials, the
 5 school district or regional educational attendance area is eligible for
 6 supplemental programs under AS 14.17.061.

7 Sec. 14.03.160. CLASS SIZE ADJUSTMENTS FOR EXCEPTIONAL CHILDREN.

8 (a) Calculation of class size limits under AS 14.03.150 shall be
 9 weighted for membership of exceptional children in a class. The follow-
 10 ing schedule may be used as a guide to calculate class size limits when
 11 the class contains exceptional children:

TYPE OF EXCEPTIONAL CHILD	CLASSROOM SIZE WEIGHTING FACTOR
(1) gifted	1.5
(2) learning disabled	2.0
(3) mentally retarded	2.0 - 2.5
← (4) ^{broken leg?} orthopedically handicapped	2.0
(5) visually impaired - glasses	2.0
(6) deaf or hearing impaired	2.0
(7) emotionally impaired	2.5
* (8) ^{suggest delete} subject to behavior disorder	2.5
(9) blind	2.5
* (10) subject to perceptual or communication disorder	2.5
* (11) ^{hyperactive - ? very many problems} [hyperactive - ? very many problems]	2.5

*- ? denied
are not all in
this category*

need definition

25 students

12 (b) The maximum weighting factor for an exceptional child who has
 13 more than one of the conditions set out in (a) of this section is 4.0.

14 (c) A school district or regional educational attendance area may
 15 not place more than four exceptional children in a classroom with
 16 children not designated as exceptional.

1 * Sec. 2. AS 14.20.550 is amended by adding a new subsection to read:

2 (b) The school board of a school district or regional educational
3 attendance area and the bargaining agent representing the certificated
4 staff may negotiate as to

5 (1) class size, and

6 (2) pupil to teacher ratio.

7 * Sec. 3. AS 14.20 is amended by adding a new section to read:

8 Sec. 14.20.562. CLASS SIZE TASK FORCE. (a) When a school board
9 and a bargaining agent agree to negotiate as to class size, the school
10 board of the school district or regional educational attendance area
11 may establish a class size task force consisting of members selected by
12 the board and an equal number of members selected by the bargaining
13 agent for the certificated staff of the district or attendance area.
14 The class size task force may apply the weighting factors in AS 14.03.-
15 160 to the children in membership in the school district or a regional
16 educational attendance area so as to adjust the classroom size limits.

17 (b) The class size task force shall recommend to the school board
18 of the district or the regional educational attendance area and the
19 bargaining agent

20 (1) maximum class sizes for different classroom programs of
21 the district or attendance area, and

22 (2) the use of classroom aides.

23 * Sec. 2. This Act takes effect July 1, 1981.
24
25
26
27
28
29

SECTIONAL ANALYSIS HB 353

"An Act relating to school class size and providing for an effective date."

Amends Title 14, Education

Section 1. Amends AS 14.03 "Public Schools generally by adding new sections.

Sec. 14.03.151 "Maximum Class Size"

(a) Number of pupils taught in a classroom may not exceed 23 in Kindergarten through 3rd grade and 26 in 4th through 12th. Overall school district or regional area ratio must correspond.

(b) Instructions for determining classroom size.

(c) On appropriate request, class size limits may be increased up to 20 %.

(d) Matters relating to class size and pupil/teacher ratio shall be subjects for negotiation if requested by the appropriate bargaining agent. This agent representing the staff and board may agree to a size or ratio exceeding prescribed limits.

Sec. 14.03.160 "Class size adjustments for Exceptional Children"

Table sets out how class size limits shall be weighted for membership of exceptional children. A maximum of four exceptional children may be placed in a classroom with non-exceptional children.

Section 2:

AS 14.20.550 Negotiations with Certified Employees

A new subsection added. Class size and pupil/teacher ratio are appropriate objects of negotiation.

Section 3:

A new section added to AS 14.20. "Employment and tenure" relating to a school size task force.

The section states that when a school board and a bargaining agent agree to negotiate as to class size, the board of the school district or REAA may establish a class size task force consisting of members selected by the board and an equal number of members selected by the agent for the certified staff of the district or attendance area. Provides the task force shall recommend to the board and the agent the maximum class sizes for different classroom programs of the district or attendance areas, and the use of classroom aides.

Establishes a Joint Interim Committee on Relocation of the State Capital of the Twelfth Legislature composed of the president of the Senate, the Speaker of the House, the chairman of the House Finance Committee, one of the co-chairmen of the Senate Finance Committee, two other senators, one from each of the major political parties, and two other representatives, one of whom shall represent the election district in which the new capital city site is located; one representative being appointed from each of the major political parties.

Provides Act takes effect immediately.

Introduced March 18 and referred to State Affairs, then to Finance. (Note: also see page 548 for further action this week).

Appropriation
(special)
(joint comm.
on relocation of the
capital)

HOUSE BILL NO. 352, by the Finance Committee. Makes a special appropriation in the amount of \$1,000,000 from the general fund to the Legislative Affairs Agency for the work of the Joint Interim Committee on Relocation of the State Capital. Provides unexpended and unobligated portion of the appropriation lapses on 6/30/83. Provides Act takes effect on the effective date of HB 351, above.

Introduced March 18 and referred to State Affairs, then to Finance. (Note: see page 548 for further action this week).

School Class
Size

HOUSE BILL NO. 353, by Reps. Miller, Buchholdt, Clocksin, Cotten, Gardiner, Halford, Duncan, Brown and Phillips. Relates to the size of school classes. Amends AS 14.03 (Public Schools Generally) by addition of new sections relating to maximum class size. States that the number of pupils taught in a classroom may not exceed 23 in kindergarten through third grade and 26 in fourth through 12th grade, with a corresponding teacher to pupil ratio. Provides that on written request of the chief administrator of a school and the bargaining agent representing the certificated staff of that school, the commissioner may increase the class size limits by up to 20 percent. Provides that matters pertaining to class size and pupil to teacher ratio shall be subjects for negotiation with a school board if negotiation is requested by the bargaining agent representing the certificated staff of the school district or regional educational attendance area (REAA). States that the agent representing the staff and board may agree to a class size or ratio which exceeds prescribed limits, and if the agreement results in a need for additional money for staff, facilities, equipment, or materials, the district or REAA is eligible for supplemental programs (AS 14.17.061).

*should not be
here* →

Adds new section relating to class size adjustments for exceptional children, and provides a schedule to be used as a guide to calculate class size limits when the class contains certain types of children. Also provides that a school district or REAA may not

Amends AS 14.20.550 (Teachers and School Officials, unrepresented coordinated employee negotiations) by addition of a new subsection which states that the school board or REAA and the bargaining agent may negotiate as to class size and pupil to teacher ratio.

Adds a new section to AS 14.20 (Teachers and School Officials) relating to a class size task force. The section states that when a school board and a bargaining agent agree to negotiate as to class size, the board of the school district or REAA may establish a class size task force consisting of members selected by the board and an equal number of members selected by the agent for the certificated staff of the district or attendance area. Provides the task force shall recommend to the board and the agent the maximum class sizes for different classroom programs of the district or attendance area, and the use of classroom aides.

Provides Act takes effect July 1, 1981.

Introduced March 18 and referred to Health, Education and Social Services, then to Finance.

Judicial Retirement
(audio, visual & dental benefits)

HOUSE BILL NO. 354, by the Judiciary Committee by Request. (See Senate Bill No. 286, page 444, identical.) (Note: text of the bill is identical, but the title of the House bill reads: "An Act allowing certain insurance coverage for judges and justices receiving benefits under the judicial retirement system; and providing for an effective date." The title of the Senate Bill reads: "An Act relating to audio, visual, and dental insurance coverage for persons receiving benefits under the judicial retirement system; and providing for an effective date.").

Introduced March 18 and referred to State Affairs, then to Finance.

Alaska Housing Finance Corp.
(special mortgage loan purchase program)

HOUSE BILL NO. 355, by Reps. Miller and Duncan. Relates to the Special Mortgage Loan Purchase Program of the Alaska Housing Finance Corporation. Amends the program by stating that the corporation may purchase mortgage loans, including graduated payment mortgage loans made for the construction and rehabilitation of residences, as well as for the purchase of residences. Repeals and reenacts section relating to interest rates (098(d)) by addition of language stating that the interest rate for a loan made for purchase, construction, or rehabilitation of a residence having more than two dwelling units, in which the units are individually owned may not exceed 10 percent, and in which the units are not individually owned, may not exceed 11 percent. States that the interest rate for the purchase, construction or rehabilitation of an owner-occupied one or two unit residence may not exceed nine percent for the first \$90,000 of the loan if the loan is made to an eligible veteran, and 10 percent if

--\$331,000 for construction of office space in combination with storage, hangar and cold storage space at Naknek.

--\$120,000 for construction of a shop facility at Nondalton.

--\$845,050 for construction of classrooms, a shop and a library at Parryville.

--\$120,000 for construction of a shop facility at Port Heiden.

States that appropriation is for capital projects and is subject to AS 37.25.020 (does not lapse). Effective immediately.

Introduced March 10 and referred to Health, Education & Social Services and Finance.

II. FISCAL DETAIL

Agency Affected Department of Education
 Program Category Affected Elementary and Secondary Education
 BRU, Program, or Subprogram(s) Affected _____

(Note: If more than one budget component is affected, separate line-item amounts and funding for each component in the analysis section.)

EXPENDITURES (Thousands of Dollars)

	FY 81	FY 82	FY 83	FY 84	FY 85	FY 86
100 PERSONAL SERVICES						
200 TRAVEL						
300 CONTRACTUAL						
400 COMMODITIES						
500 EQUIPMENT						
600 LAND & STRUCTURES						
700 GRANTS, CLAIMS, ETC.		104,005.3	35,326.6	44,158.3	55,197.9	68,997.4
TOTAL						

FUNDING (Thousands of Dollars)

GENERAL FUND		104,005.3	35,326.6	44,158.3	55,197.9	68,997.4
FEDERAL FUNDS						
OTHER (Specify Fund Source)						

POSITIONS

FULL TIME						
PART TIME						
TEMPORARY						

NEA - 29M

III. ANALYSIS (See Fiscal Note Preparation Instructions, Section III)

See attached.

Post FY 82 costs include teacher's salaries only, and are inflated by 25% annually to reflect operation and maintenance cost increases resulting from added classrooms.

IV. DATE 4/9/81

PREPARED BY Steve Hole
 AGENCY Department of Education
 PHONE 465-2800

Original: Legislative Finance
 cc: Budget and Management
 Prime Sponsor (First Legislator Named)

Assumptions:

1. Exceptional child adjustments similar to 14.03.160 will be used.
2. Minimum average exceptional student adjustment will be on a 1.75 weighting factor.
3. Average PTR will remain 17.1 to 1.
4. Busing will not be acceptable as a long range solution.
5. No classrooms will be impacted by proscription contained in 14.03.160(c).
6. All additional teachers required by the bill will enter at beginning salary level.
7. All capital funds necessary will be appropriated during FY 82.
8. Not all school boards will increase classroom PTR's to maximum permitted by bill, resulting in 3, above.
9. The state will reimburse districts for the increased staff costs occasioned by the bill.
10. No costs resulting from 14.03.150(d), 14.20.550(b) or 14.20.562 are reflected in this fiscal note.
11. All additional classrooms will be built at minimum cost of \$160.00 per sq. ft.

Calculations based upon FY 80 Final Statistical Report

Classroom Teachers	5,067
Students	86,558
Classroom PTR average	17.1

Steps in determining bill cost:

1. Adjustment to bring Anchorage to State PTR average: 462 teachers
2. 86,558 ADM - 12,000 exceptional students = 74,558
3. 12,000 exceptional students x 1.75 weight factor = 21,000
Total 95,558
4. 95,558 adjusted ADM ÷ 17.1 PTR = 5,588 teachers
5. 5,588 teachers (bill) - 5,067 teachers (present) = 521 additional teachers
6. 462 teachers (Anchorage 14.03.150(e) adjustment) + 521 teacher increase required by 14.03.150(b) = 983 new teachers
7. 983 x \$28,750 = \$28,261,250

8. 95,558 adjusted ADM - 86,558 actual ADM = 9,000 ADM
9. 9,000 ADM ÷ 17.1 PTR = 526 new classrooms
10. 526 classrooms X 900 square feet/classroom = 473,400 sq. ft.
11. 473,400 sq. ft. X \$160.00 per square foot = \$75,744,000
12. FY 82 cost = \$75,744,000 facilities + \$28,261,250 personnel = \$104,005,300

Alternative Fiscal Note

FY 82 cost of \$75,744.0 for classroom space; no increased teacher cost to state since this bill does not necessarily increase entitlement under the foundation program.



NEA - ALASKA

AFFILIATED WITH THE NATIONAL EDUCATION ASSOCIATION

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April 16, 1981

TO: Representative Don Clocksin
Chair, House HESS Committee

FROM: Jim Alter
NEA-Alaska

RE: HB 353

As mentioned in my testimony on Saturday, April 10 at the HESS Committee hearing, I am sending you our analysis of the fiscal impact of HB 353.

The rationale and data supporting our figures are on the attached sheets in paragraphs numbered to correspond with the numbers assigned to each item on this page.

1. Additional teachers required by HB 353 limits: 263
2. Cost of additional teachers: \$7,561,250
3. Additional classrooms required by HB 353: 154
4. Cost of construction of additional classrooms: \$22,176,000
5. Total cost of HB 353 for Fiscal Year 82: \$29,737,250

If I can be of further assistance in explaining this data, please don't hesitate to contact me.

JL:jw

Attachments

Consequently, a maximum number of new classrooms that HB 353 would require would be 154.

4. Using the Department's cost estimates of a new classroom, the 154 new classrooms would require \$22,176,000. (154 Classrooms X \$160/sq. ft. X 900 sq. ft.)
5. The total cost, then of HB 353 for FY 82 would be \$29,737,250 (22,176,000 + 7,561,250) of which 75% is a one-time only, capitol improvement cost.

RATIONALE

1. In the 1979-80 school year, the Anchorage Education Association did a survey of classroom teachers in Anchorage. The survey asked teachers the grade level taught, the number of students in the classroom, and the number of exceptional students included in their individual classes. The returns from that survey are indicated in Table 1, A.

These results most likely reflect a greater class size than typically occurs in Anchorage. This is because teachers with oversized classrooms would be more likely to report their situations on a voluntary survey than teachers with lower class sizes.

Nevertheless, if the survey results are extrapolated, as reported, to Anchorage as a whole, they show that HB 353 would require 263 additional Anchorage teachers. Table 1, B shows the derivation of this number.

Table 1, C shows the pupil teacher ratios for 1980-81 as reported by the Department of Education. These ratios are based on the total number of classroom teachers and total student enrollments.

Anchorage, with a Pupil/Teacher Ratio (PTR) of 20.9 requires a 15.7% increase in the number of teachers under the provisions of HB 353.

We have assumed there is a linear relationship between the classroom teacher PTR and need for more teachers under HB 353. That is, as a district's PTR drops below 20.9 a smaller percent of the classrooms will be oversized and a smaller percent of additional teachers will be needed. In particular, districts with a PTR of 18.1 or less will require a 0% increase in teachers.

Table 1, C, shows that no district other than Anchorage has a PTR greater than 18.1. Consequently, it is reasonable to assume that HB 353 would not require any district other than Anchorage to hire additional teachers.

2. Statewide, then HB 353 would require 263 additional teachers. Using the Department of Education's salary figures (28,275 per teacher) the 263 additional teachers would cost \$7,561,250.
3. Contrary to what the Department of Education has assumed, each additional teacher would not require a new classroom to be constructed. The Anchorage School District reported in January 1981 that they had 80 empty classrooms available for use. Furthermore, the need for additional classrooms could be reduced if the added teachers team taught, and used rooms that are empty at different periods of the day (especially true in secondary schools). Finally, a balancing of class loads could further reduce the need for additional classrooms.

Assuming that (1) one out of every ten new elementary teachers in Anchorage would team teach (13 teachers), and (2) one out of every eight new secondary teachers in Anchorage could use empty classrooms (16 teachers), we conclude that Anchorage, under HB 353, would at most require 154 new classrooms.

Grade Level	Number of Classrooms Reported	Number of CRs Exceeding Weighted Limits of HB 353	% of CRs Exceeding Weighted Limits of HB 353	Average Number of Students Per Class Over Weighted Limits of HB 353
K - 3	40	34	85	4.5 students
4 - 12	35	26	74	4.7 students

TABLE 1A Anchorage Education Association 1979-80 Survey of Class Sizes

Grade Level	# of Classroom Teachers (80-81)	Number of Classrooms	% of Classrooms Exceeding HB 353 Limits	# of Classrooms Exceeding HB 353 Limits	# of Students Per Class Over HB 353 Limits	Total # of Students in Excess of HB 353 Limits	# of Additional Teachers Needed Assuming one Teacher Per Limit of HB 353
K-1	554	554	85%	471	5	2,355	103
4-12	1,124	1,124	74%	832	5	4,160	160

Table 1, B Projected Number of Teachers Required by HB 353

Juneau	17.9
Wrangell	17.6
Mat-Su	17.3
Fairbanks	16.4
Sitka	16.0
Kenai	15.9
Adak	15.7
Kodiak	14.9
Delta/Greely	14.9
Klawock	14.3
Valdez	13.8
Copper River	13.5
Petersburg	13.2
Dillingham	13.2
Cordova	12.5
Unalaska	12.4
Pribilofs	12.3
Craig	12.1
Lower Kuskokwim	11.8
Yakutat	11.8
Haines	11.8
Annette	11.7
Nenana	11.6
S.E. Islands	11.6
Nome	11.5
Railbelt	11.4
Northwest	11.3
Lower Yukon	11.2
Alaska Gateway	11.1
Take	11.0
Yukon Koyukuk	10.7
Moohah	10.7
Chugach	10.6
Bristol Bay	10.5
Skagway	9.9
North Slope	9.6
Iditarod	9.4
Pelican	9.3
Hydaburg	9.1
Southwest	8.9
King Cove	8.8
Lake & Peninsula	8.7
Chatham	8.7
Galena	8.6
Bering Straits	8.1
Aleutians	7.9
Sand Point	7.7
Yukon Flats	7.6
Kuspuk	7.4
St. Mary's	5.9

Table 1, C Ratio of Students to Classroom Teachers in Alaska: Districts

3/1/82

Bob Green from
the School Bd
Don will testify
on the remainder of
today's bills.

Marjorie Gorsuch is here
to testify on HB 353

→ what is T/S ratio?

Bob Manners,
rather than Cooksey,
will testify on S12
(lost
bill on
agenda)