Digest of
A Performance Audit of
Elementary School Class Size

Chapter I: Introduction

Class-size reduction has been an important issue for many years. Since fiscal year 1993, the Legislature has appropriated $875 million in class-size reduction (CSR) funds as a supplement to other education funding. As part of this audit, we were asked to evaluate the effect of CSR funding on class sizes.

Since class-size reduction is an important policy goal, class sizes need to be accurately and consistently measured. We were asked to validate the class-size statistics reported in the *2008 Annual Report of the State Superintendent of Public Instruction Report* (Superintendent's annual report) published in January 2009. This report includes data for the 2007-2008 school year.

This report shows our independent review of three statistics mandated by ***Utah Code***—average class size, pupil-teacher ratio, and pupil-adult ratio. USOE revised the pupil-teacher and pupil-adult ratios they planned to publish based on an exposure draft of our audit report. While we recognize that USOE revised the ratios, we are concerned that the ratios still do not include all teachers and adults.

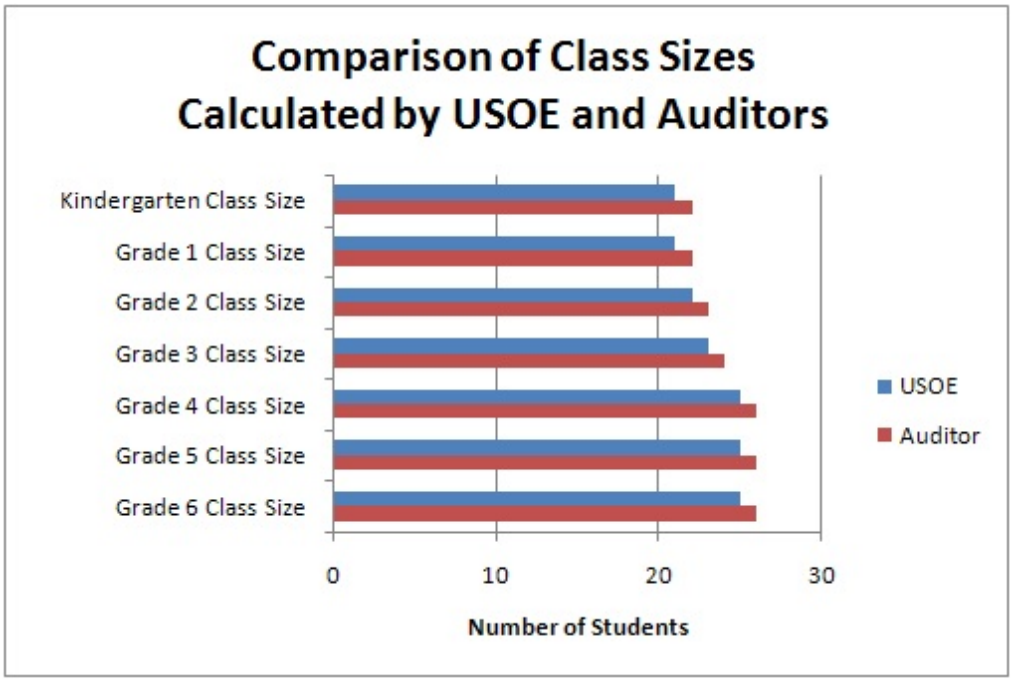
Chapter II: CSR Funds Provided by the Legislature Have Reduced Class Sizes

CSR Funds Increase the Number of Teachers Hired by School Districts. We evaluated the CSR funds appropriated by the Legislature for reducing class sizes for all or part of a day. We found the CSR appropriation of $82.3 million in 2008 funds about 1,240 teachers.

CSR Funds Lower Average Class Size. Since CSR funds allow school districts to hire a significant number of teachers each year, we computed the impact of CSR funds on class sizes. We found that CSR funding would enable school districts to reduce class sizes in grades K-6 by 3.08 students if they used all of the funding to hire core-subject teachers. Without CSR funds, the average class size would have been about 28.15 students per teacher. With CSR funds, the average class size reduces to 25.07 students per teacher.

Chapter III: USOE Should Resolve Data Integrity Issues to Improve Class-Size Reporting

USOE Should Refine Their Process for Identifying Classes. We were asked to verify class size statistics included in the Superintendent's annual report and on the U-PASS web site for individual schools. As the figure below shows, we found minor differences in the statewide class-size reports for each grade. Although it is not reflected in the figure, we found significant differences in the reported class sizes for some districts and some schools; these differences are described in our report.



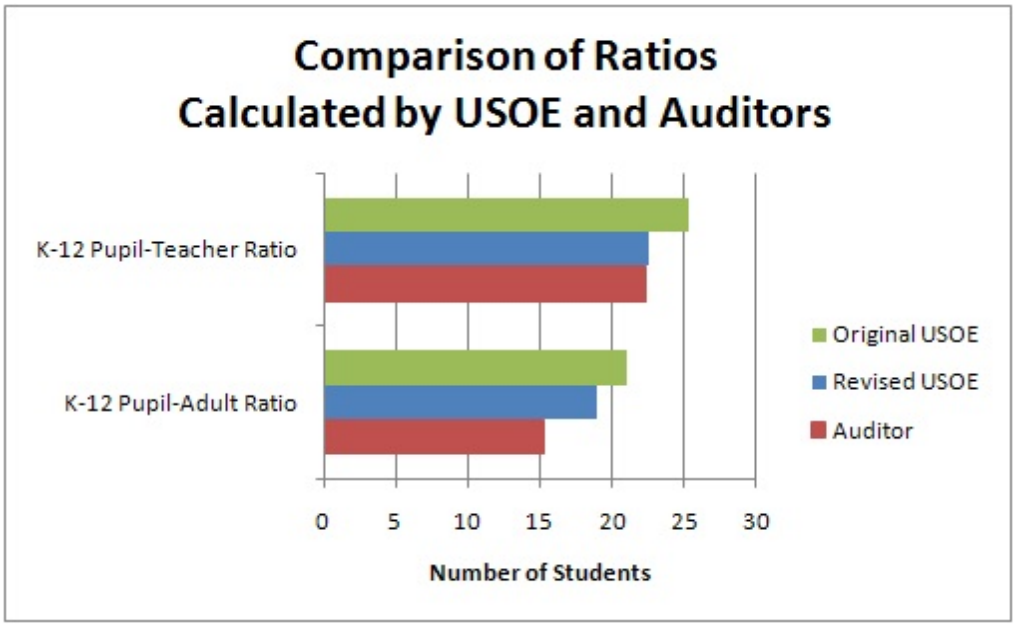
See Appendices D and E for actual values by grade.

USOE's methodology for identifying individual classes overstates the number of classes in grades K-6. One reason for overstated class counts is that USOE counts combined-grade classes as individual, small classes. Combined grade classes are used in 29 of 40 districts, and consequently, the reported average class size is understated for all of those classes. We believe USOE needs to adjust how they count classes so the class sizes are reported correctly.

Data Integrity Concerns Exist with Class-Size Data. Most class sizes reported by school districts are correctly treated by USOE. However, 8 percent of classes are incorrectly counted by USOE and impact the reported average class sizes for many school districts. There are other data integrity concerns that are either statewide or specific to a particular school district or school that exist in USOE's clearinghouse data. USOE should continue to improve their processes for collecting and monitoring data they receive.

Chapter IV: Reporting of Staffing Ratios Should Be Improved

We did an independent calculation of a statewide pupil-teacher ratio and a pupil-adult ratio based on USOE data. Because USOE cannot provide grade-level detail, these ratios are reported on a K-12 basis. However, the audit report has examples of grade-level ratios at two elementary schools. USOE computed both ratios and planned to report the results. However, based on an exposure draft of our audit report, USOE revised their ratios because the audit found they did not include special education teachers in their computations. The following figure shows USOE's original and revised ratios as well as our audit-calculated ratios.



See Appendices G through J for actual values by district.

While we recognize that USOE revised the ratios, we believe there are additional teachers and adults not included in the ratios. Because the ratios do not include all teachers and adults, as required, we are concerned that the Legislature may lack the information needed for decision making.

USOE Should Reconsider How They Calculate the Student-Teacher Ratio. USOE calculated a statewide student-teacher ratio of 25.3 students per teacher. USOE staff initially thought that special education teachers were included in the ratio, but based on the audit work, they determined that special education teachers were not included. USOE revised the statewide ratio for all districts to 22.5 students per teacher. Our independent calculation shows a student-teacher ratio of 22.4 students per teacher. We recommend that USOE reevaluate the way they calculate the student-teacher ratio to ensure they capture all teachers in the ratio.

USOE Should Reconsider How They Calculate the Student-Adult Ratio. The student-adult ratio includes the teachers from the student-teacher ratio and adds additional adults that work with students to create an overall adult ratio. Initially, USOE computed a student-adult ratio of 21.0 and revised it to 18.9 by including special education teachers. Our calculations show the ratio to be 15.3 students per adult because we are including 7,359 FTE instructional aides, and 379 FTE library and media support staff that work with students statewide. In contrast, USOE only included those instructional aides that are registered in their Comprehensive Administration of Credentials for Teachers in Utah Schools (CACTUS) database. We recommend that USOE either expand their system or develop a new method to count all instructional aides so they can be counted in the student-adult ratio.

Reported Ratios Lack Grade-Level Detail. The pupil-teacher and pupil-adult ratios reported by USOE do not fulfill statutory grade-level requirements. In 2008, USOE reported these ratios by combining grades K-12. If the Legislature needs the data by grade, USOE needs to adjust their data collection systems so they will allow for grade-level reporting.

1. We recommend that USOE develop a methodology to account for combined-grade classes and distribute classes to appropriate grades for class-size calculations.
2. We recommend that USOE round to the nearest number rather than always truncating class size averages on the U-PASS web site.
3. We recommend that USOE either provide more guidance on the use of section numbers beyond the requirement that they be unique, or consider no longer using the section field for identifying classes.
4. We recommend that USOE work with the Legislature to determine whether the average-class-size calculation should be adjusted to compensate for periods of smaller classes during the day and additional instruction time provided by teachers.
5. We recommend that USOE staff develop a way that schools can report scenarios where daily class size does not match the number of students enrolled in a class.
6. We recommend that USOE audit and review data they receive from school districts on a sample basis. This will enable them to further define and formalize data rules as well as train districts on their proper use collection at the district level.
7. We recommend that USOE reevaluate the way they calculate the student-teacher ratio to ensure they capture all teachers.
8. We recommend that USOE reevaluate their reporting of a median value.
9. We recommend that USOE work with the Legislature to determine which teachers and adults should be included in each ratio.
10. We recommend that USOE provide direction to districts regarding the use of teacher and adult categories.
11. We recommend that USOE develop a system to capture all instructional aides in school and report them in the student-adult ratio.

REPORT TO THE

UTAH LEGISLATURE

Number 2009-04

A Performance Audit
of
Elementary School Class Size

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Chapter I
Introduction

Measuring and reporting class sizes accurately and consistently is important.

Class-size reduction has been an important issue for the Legislature for many years. Since fiscal year 1993, the Legislature has appropriated approximately $875 million in class-size reduction (CSR) funds as a supplement to other education funding. In Chapter II, we estimate the impact that CSR appropriations have had on elementary-school class sizes in Utah's 40 districts.

Since class-size reduction is a policy goal, there is a need for measuring class sizes accurately and consistently and reporting the results clearly so that results can be tracked and further policy decisions can be made. If policy decisions are to be made using statewide and district results, confidence in the reported results is important. We were asked to validate the class-size statistics reported in the *2008 Annual Report of the State Superintendent of Public Instruction Report* (Superintendent's annual report), published in January 2009. These statistics are computed by the Utah State Office of Education (USOE). USOE gathers data from districts and computes and publishes three statistics—class size, pupil-teacher ratio, and pupil-adult ratio. In addition, USOE provides data to the U.S. Department of Education (DOE) that is used to produce various staffing statistics by state. These national reports are used to compare Utah with other states.

USOE's reporting of class-size statistics should be improved.

Our analysis shows that USOE's reporting of class-size statistics can be improved. Improving the reporting is important because it allows policymakers and others to use the data to make comparisons among districts and among other states.

This report focuses on class sizes, staffing ratios, and validation of elementary-school data in Utah's 40 districts; it does not address charter schools or secondary schools.

Legislature Has Provided CSR Funds Since 1993

Appropriations for class-size reduction have grown to $88 million per year.

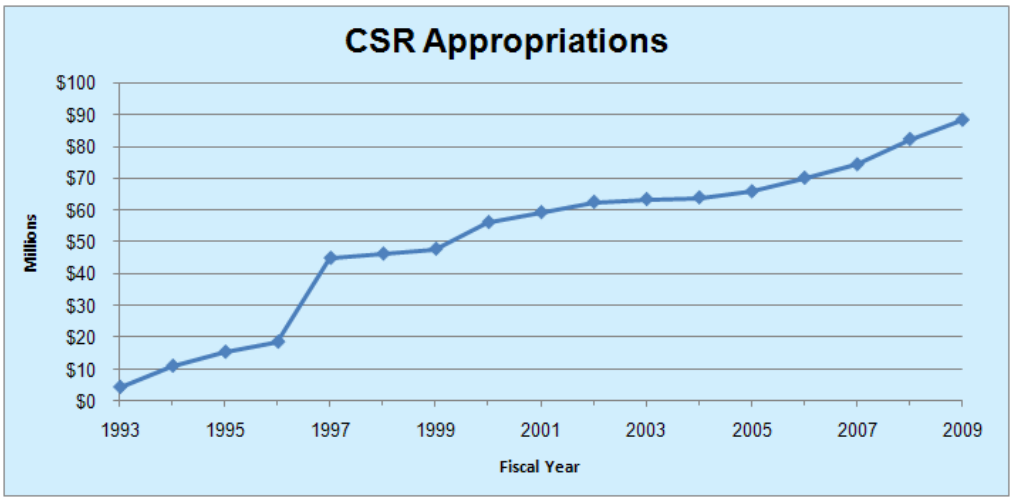
Since fiscal year 1993, the Legislature has appropriated $875 million in CSR funds. A previous audit by our office, *A Performance Audit of Class-Size Reduction Funds* 2007-14, issued in December 2007, showed the historical appropriations of CSR funds and how those funds were used. The report showed that the funds had increased each year and were used primarily for teachers' salaries and/or benefits.

CSR Appropriations Have Steadily Increased Since 1993

State appropriations for reducing class size have been part of public education funding in the Minimum School Program (MSP) since fiscal year 1993. Since then, several major infusions of CSR funds have been approved by the Legislature. Figure 1.1 shows CSR appropriations from fiscal years 1993-2009.

Figure 1.1 Historical CSR Appropriations (FY 1993 to FY 2009). CSR funds have grown from $4.3 million to $88.4 million for a total of $875 million.

CSR funds have grown from $4.3 million in fiscal year 1993 to $88.4 million in fiscal year 2009.



Sources: Office of the Legislative Fiscal Analyst and Laws of Utah 1993-1994

CSR funds have grown from $4.3 million in fiscal year 1993 to $88.4 million in fiscal year 2009 for a total appropriation of $875 million. The annual appropriation of CSR funding is determined by the Legislature after considering a variety of factors. Unlike many other education programs, the appropriation is not tied to enrollment growth. For

example, in fiscal year 2000, the CSR appropriation increased 17 percent even though there was no enrollment growth that year. Since 2006, annual increases in CSR funds have been more than double the annual student enrollment growth.

Prior Audit Addressed Districts' Use of CSR Funds

Audit 2007-14 reported CSR funds were appropriately used to fund teachers' salaries and benefits.

Our 2007 audit found that the accounting for CSR funds differs from district to district. The audit found that the majority of districts do not track CSR funds. Therefore, while all districts report using CSR funds almost exclusively for teacher compensation, we could not always verify this. Twenty-two of 40 school districts commingled their CSR revenues with other education revenues and did not track CSR funds to expenditures. Consequently, for those districts, auditors were unable to independently validate whether CSR funds were spent either appropriately or inappropriately.

The previous audit also found that some CSR fund expenditures can be determined. The auditors sampled eight school districts, three of which track CSR funds. For those three districts, auditors validated that CSR funds were appropriately used to fund teachers' salaries and benefits.

In the previous report, auditors tracked how CSR funds were used. In this report, we show the impact of CSR funds on class sizes. In addition, we were asked to validate the class-size statistics reported in the Superintendent's annual report.

Current Audit Reviews Impact of CSR Funds and Evaluates Ratios Reported by USOE

There are various ways to describe the number of students in a school and how they are organized for instruction; these include class size, pupil-teacher ratio, and pupil-adult ratio. While the number of students is constant, the number of teachers and adults can vary depending on what staff is included. Sometimes the terms class size and pupil-teacher ratio are used interchangeably. However, the terms mean different things. For the purpose of this report, the terms are used as follows:

Average class size can be calculated using the number of classes or core teachers.

- **Average Class Size** is the ratio of students to classes. Average class size is a computation made by USOE of the number of students enrolled on October 1 of each year, divided by the number of classes in a particular grade. Chapter III will examine in detail the many issues with how USOE counts classes and reports class sizes by grade and district. Generally, each class has one core teacher. Since there is one core teacher per class, the ratio of students to core teacher is similar to average class size. Chapter II estimates class size using the count of core teachers.

Pupil-teacher ratio includes all teachers.

- **Pupil-Teacher Ratio** is the ratio of students to teachers. In addition to core teachers, the pupil-teacher ratio includes subject specialists and special education teachers. Core teachers include K-6 teachers that have primary responsibility for a class, whereas subject specialists focus on topics such as art, music, P.E., etc. Special education teachers work with small groups of students for portions of a day on specific needs. About 14 percent of teachers do not have a core classroom responsibility but help teach the same students as the core teachers. USOE calculates the pupil-teacher ratio by dividing the number of students by the number of licensed classroom teachers in each school and each district. Chapter IV will examine issues with how USOE counts teachers and reports student-teacher ratios by district. ***Utah Code*** refers to a pupil-teacher ratio while USOE uses the term student-teacher to describe the same ratio.

By statute, the pupil-adult ratio should include all adults who work with students in an instructional setting.

- **Pupil-Adult Ratio** is the ratio of students to all teachers and adults. The number of adults includes instructional support specialists such as librarians and guidance counselors; student support services such as audiologists, psychologists, and social workers; and paraprofessionals and teachers' aides. These adults do not have core classroom responsibilities but help teach the same students as the core teachers. USOE calculates the pupil-adult ratio by dividing the number of students by the number of paid adults captured in the Comprehensive Administration of Credentials for Teachers in Utah Schools (CACTUS) system. Chapter IV will examine issues with how USOE counts adults and reports pupil-adult ratios by district. ***Utah Code*** refers to a pupil-adult ratio while USOE uses the term student-adult to describe the same ratio.

A hypothetical example in Figure 1.2 will illustrate the difference between the ratios.

Figure 1.2 The Relationship Between the Number of Students and Staff Can Be Measured Three Different Ways. Class size is the ratio of students to classes. If there is one core teacher in a class, then the ratio of students to core teachers is identical to class size. If additional non-core teachers or adult aides are added to a class, the pupil-teacher and pupil-adult ratios become progressively smaller than class size.

	Class Size	Pupil-Teacher Ratio	Pupil-Adult Ratio
Numerator (Students)	24	24	24
Denominator (Classes, Teachers, or Adults)	1	1.5	2
Ratio Results	24:1	16:1	12:1

Reported average class size does not reflect the additional assistance of specialty teachers and teachers' aides.

In the above example, a second-grade class with 24 students and one teacher will be a class size of 24, or 24 students for one core teacher. If an additional certified teacher is added to that class half-time to help students with math or reading, the pupil-teacher ratio will be 16:1. If a half-time instructional aide is also assigned to the classroom, the pupil-adult ratio becomes 12:1. These ratios show that the number of students remains the same, but as more teachers and adults are added, each subsequent ratio is smaller. Conversely, the class-size number does not reflect the additional assistance of a part-time certified teacher and a half-time teacher's aide.

USOE Calculates Statistics from Data Submitted by LEAs and Reports Results

USOE calculates and reports three statistics for each school and district:
- **Average class size**
- **Student-teacher ratio**
- **Student-adult ratio**

USOE is required to gather data from local education agencies (LEAs), which include all district and charter schools, and publish composite reports that can be used for policy decisions. In addition, USOE is also required to report statistical data, such as class size, for each school in the school performance reports. USOE also forwards this data to DOE, and DOE uses it to produce composite reports by state.

USOE has published various staffing and class-size statistics in past years in the Superintendent's annual report based on legislative mandates. The reports have changed over time, with new reports being created and others eliminated. Caution is recommended when using the various reports to show historical trends because the categories included in the various statistics may have changed over time.

Some reports are new, such as a pupil-adult ratio (K-12) reported for the first time in the 2008 Superintendent's annual report. Some reports have been eliminated, such as a statewide composite class-size report, by grade, that grouped the classes according to the number of students in each class (6-10 students, 11-15 students, etc.). This report was published until 2003.

Prior to 2004, each district computed its own statistics and submitted the results to USOE. USOE simply compiled the district results and published them in a statewide composite report. There were concerns that there was a lack of data integrity or consistency among districts as to how the various ratios were computed. When USOE created a new computer system in 2004, they began to gather raw data from districts and compute the ratios. The plan was that reporting differences could be eliminated by having USOE make all the computations in a standardized manner.

School-level statistics are reported on the U-PASS web site.

Beginning in 2007, USOE was legislatively mandated to report average class-size by district and school. This state-level composite report was first published in the 2007 Superintendent's Report (issued January 2008). Beginning in September 2008, average class size by grade level was also reported, for each school, on the Utah Performance Assessment System for Students (U-PASS) web site, found at http://u-pass.schools.utah.gov/u-passweb/. For examples of school performance reports, see Appendices A and B.

District- and state-level statistics are reported in the Superintendent's Report.

Also in 2007, USOE was legislatively mandated to report both pupil-teacher and a pupil-adult ratios, by grade and by district. USOE reported various staffing ratios in the 2007 Superintendent's annual report but did not report a pupil-adult ratio. In the 2008 Superintendent's annual report (published in January 2009) USOE reported student-teacher and student-adult ratios for K-12, for each district.

Over the years, USOE has reported reports describing class sizes and staffing ratios. The terminology used in their reports has changed. Prior to 2008, USOE used the term staffing ratios to report multiple ratios. Specifically, USOE calculated and reported individual staffing ratios for elementary, secondary, K-12, special education, elementary counselors, secondary counselors, and school administrators. In 2008, one student-teacher and one student-adult ratio were reported by school district and replaced the multiple ratios.

In Chapter III, we examine the average class-size statistics reported by USOE, and in Chapter IV we examine the pupil-teacher ratios and the pupil-adult ratios. In Chapter IV we also provide our concerns with data USOE sends to the DOE that is then published in national reports.

Audit Scope and Objectives

This report addresses the following audit objectives:

- Determine the impact that class size appropriations have had on a selected number of school districts. (Chapter II)

- Validate the class sizes, pupil-teacher ratio, and pupil-adult ratio as defined by ***Utah Code*** ratios and reported by the USOE to the 2009 Legislature. (Chapters III and IV)

- Test the source data and methodology used by a sample of districts. Determine whether districts use consistent approaches and evaluate data integrity among districts. (Chapter III)

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Chapter II
CSR Funds Provided by the Legislature Have Reduced Class Sizes

Majority of CSR funds are used to hire licensed teachers and has the potential to reduce class sizes by 3.08 students per class.

Since fiscal year 1993, the Legislature has appropriated funds for class-size reduction (CSR) through the Minimum School Program (MSP). For fiscal year 2008, the appropriation for CSR was more than $82 million, which paid compensation for 1,240 additional teachers. CSR funding is awarded to both school districts and charter schools. For fiscal year 2008, school districts received 95 percent of the CSR appropriation and hired roughly 1,184 of the additional teachers. Most CSR funding is used to hire licensed teachers and has the potential to reduce class sizes by 3.08 students per class. However, the actual impact depends on the number of licensed teachers that do not teach core classes, as well as on the small proportion of funds used for hiring paraprofessional staff. These non-core teachers do not lower class size but do reduce the number of students a teacher works with at a given time.

CSR Funds Increase the Number of Teachers Hired by School Districts

CSR funds are appropriated by the Legislature each year to reduce class sizes for all or part of a day. To do so, school districts use the funding to hire additional teachers. In order to determine how many teachers were hired with CSR funds, we divided the CSR appropriation by the median teacher salary and benefits. We found no other MSP line items attached to the CSR line item, so only CSR funds were used in the calculation. Figure 2.1 shows how many school teachers were hired with the CSR appropriation for the past two years.

Figure 2.1 The Number of Teachers Funded by CSR Appropriations in Fiscal Years 2008 and 2007. The following chart shows how many teachers were potentially hired with CSR funds. This model assumes that all CSR funds were spent on grades K-6 and that teachers hired with the funds had a mixed level of experience that resulted in costs similar to the median salary and benefits for all school districts.

In 2008, 1,240 teachers were potentially funded with CSR funds.

	2008	2007
Legislative Appropriation	$ 82,330,986	$ 74,378,341
Median Teacher Compensation	66,397	62,223
Teachers Funded with CSR Money	**1,240**	**1,195**

As Figure 2.1 shows, the CSR appropriation pays for a significant number of teachers each year. To determine how many teachers were hired with CSR funds, we divided the CSR appropriation by the median teacher salary and benefits. According to a previous audit by our office, *A Performance Audit of Class-Size Reduction Funds* in December 2007, the majority of CSR funding is spent on teacher salaries and benefits. The audit found that 22 of 40 school districts do not track the use of CSR funds, which means CSR funds were commingled with general funds to hire teachers with a variety of experience. Our review of three districts that track the use of funds, also in the previous audit, showed a mix of experience levels among CSR teachers.

Of the 1,240 teachers that were funded in 2008, 1,184 were provided to school districts, since school districts receive about 95 percent of the CSR appropriation. The remaining 62 teachers were funded at charter schools. While CSR funds have been used to hire a significant number of teachers, to understand the impact of these teachers, the number of core CSR teachers was compared to how many other teachers are employed by school districts. Only core teachers that have their own classes can lower the average class size in a grade.

CSR Funds Lower Average Class Size

As we have shown, CSR funds have allowed school districts to cover the costs of hiring a significant number of teachers each year. To understand the impact of these funds, we calculated what the average class size in elementary schools would be with and without CSR funding. We

found that CSR funding would enable school districts to reduce class sizes in grades K-6 by 3.08 students if they used all of the funding to hire core-subject teachers.

As explained in Chapter I, class size is the ratio of students to classes. However, when calculating average class size, we substituted class counts with the core-teacher full time equivalents (FTE) in each grade, since CSR funds are used to hire additional teachers that increase the number of classes that can be taught. This substitution seemed appropriate since each class has only one core teacher assigned to it. To be considered a core teacher in class-size calculations, an elementary teacher must instruct one of 10 specific subjects. These subjects include kindergarten through grade 6, as well as the core subjects of language arts, math, and science for sixth-grade students. Figure 2.2 shows how we calculated the impact of CSR funding on class sizes for the 2008 school year.

Average class size was reduced by 3.08 students from 28.15 to 25.07 with CSR funds.

Figure 2.2 Impact of CSR Funding on Class Size for the 2008 School Year. Our estimate isolates CSR teachers and computes average class size including and excluding CSR teachers for school districts only.

K-6 Adjusted Enrollment *	271,916
Core-Teacher FTEs	10,845
Class Size Including CSR Teachers	**25.07**
Core-Teacher FTEs Excluding CSR Teachers **	9,661
Ratio Excluding CSR Teachers	**28.15**
Difference	**3.08**

* *Ratios were calculated using an enrollment that was adjusted for half-day kindergarten by assigning an FTE value of .59.*

** *1,184 teachers were omitted as the number of teachers school districts could purchase with CSR funds.*

As the figure shows, CSR funds have had a significant impact in lowering average class sizes. While our calculations are relatively straightforward, dividing student enrollment by the number of teachers, we did make one adjustment to student enrollment.

Since teachers are counted on an FTE basis, students should be also. For grades 1 through 6, student FTEs are the same as the head counts that USOE uses for its enrollment statistics. However, kindergarten

classes present a problem since most of them are half day. Only some kindergarten classes are full day. Therefore, we determined what percentage of students were enrolled in half-day and full-day kindergarten.

To determine what percentage of classes were half-day kindergarten, we compared the number of teacher FTEs with the number of classes. In 2008, there were 1,133 kindergarten teacher FTEs teaching 1,924 classes. A ratio of teachers per classes generates a value of .59, which we used as kindergarten student FTEs.

After calculating the number of teachers hired with CSR funds and making the necessary adjustments to student enrollment, we determined that CSR funds have a significant impact on reducing class sizes, if core teachers are hired. The reduction of average class sizes by 3.08 students assumes that school districts spend their entire appropriation on core teachers. However, some schools do not spend their entire appropriation on core teachers.

The Impact of CSR Funding Depends On Types of Teachers Hired

Hiring specialists and special education teachers does not reduce average class size but does reduce pupil-teacher ratio.

While most funds likely go toward core teachers, other educators can be hired through the use of CSR funds. Some educators are hired to instruct groups of students in one specific subject, such as music, P.E., or reading. These teaching specialists account for about 4 percent of elementary school teachers. Special education teachers, who also work with groups of specific students during the day, account for 10 percent of all teachers. Since these teachers do not instruct any of the 10 core classes identified by USOE, they do not reduce average class size. However, they do reduce the pupil-teacher ratio and the number of students that core subject teachers work with for portions of a school day, which is still an acceptable outcome according to statutes that guide the use of CSR funds.

In addition, we also found some paraprofessional staff that were hired with CSR funds. These staff account for less than 2 percent of CSR expenditures reported by school districts. While these educators do not reduce average class sizes, they do aid in making classes more manageable for effective instruction and are hired in accordance with statute.

Utah Code 53A-17a-124.5(4), which guides the usage of class size reduction funds, states that

> schools may use nontraditional innovative and creative methods to reduce class sizes with this appropriation and may use part of their allocation to focus on class size reduction for specific groups, such as at risk students, or for specific blocks of time during the school day.

Therefore, using CSR funds to hire educators that do not reduce class size is an acceptable use of funds.

CSR funds can be used to hire educators who help in the classroom even though they do not reduce class size.

As mentioned earlier in the chapter, only licensed educators who have a core-subject teaching assignment impact class sizes. We have found that some school districts are hiring other licensed and unlicensed staff to help reduce the number of students that are working with a core-subject teacher. Therefore, we calculate that the Legislature has provided funding to reduce average class sizes by 3.08 students per class. However, the actual impact may be less, because school districts can hire other instructional staff instead of hiring core-subject teachers. It is important to realize that while these staff do not reduce class size, they do reduce the number of students the core teacher works with for portions of a day.

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Chapter III
USOE Should Resolve Data Integrity Issues to Improve Class-Size Reporting

USOE's methodology for identifying classes overstates the number of classes and, consequently, lowers the average reported class size.

Beginning in 2007, ***Utah Code*** 53A-1-301(3)(d)(vii) requires the Utah State Office of Education (USOE) to report average class size, by grade, for all local education agencies (LEAs), which include school districts and charter schools. We found that USOE's methodology for identifying individual classes overstates the number of classes in kindergarten through sixth grade. Consequently, this lowers the average reported class size at the district and school level. The two main reasons for the overstated class counts are:

- **Combined Grade Classrooms**—Some classes have more than one grade in a class. Consequently each grade is counted as a separate class by USOE. For example, a class of 26 students that included 13 fourth graders and 13 fifth graders would be counted as two classes of 13 students rather than one class of 26.

- **Multiple Sections of the Same Class**—Some school districts allow a class to be broken into multiple sections and then USOE erroneously counts them as separate classes. For example, one school district allows an extended-day program. This program allows a class to be broken into two sections, with half of the class attending 75 minutes early and half staying 75 minutes after the normal class. This schedule allows students to learn core principles in a smaller class with greater teacher attention. The problem is these classes are counted as two or more small classes.

We found 92 percent of classes identified by USOE appear to be correct and have concerns with the remaining 8 percent.

After accounting for these two main reasons that classes may be miscounted, the audit found that about 92 percent of the class sizes identified by USOE appear to be correct. However, about eight percent of the classes are incorrectly identified by USOE due to nontraditional class structures. Nontraditional classes are widespread and can impact reported average class size for many school districts. Other data integrity issues are less significant because they only impact certain schools or districts, but in our opinion, they have to be accounted for to make the class size counts accurate in the future. We believe USOE needs to continue to improve their processes for collection and monitoring data to resolve these integrity concerns.

USOE Should Refine Their Process For Identifying Classes

Utah Code requires USOE to calculate an average class size by grade for school districts, charter schools, and individual schools. USOE is required to make this calculation by dividing the number of students in a grade by the number of classes in that grade. Average class sizes are reported for all school districts in the Superintendent's annual report and for each school on the Utah Performance Assessment System for Students (U-PASS) web site.

We reviewed USOE's methodology for identifying unique classes and found that it overstates the number of classes in grades K-6. We found two main reasons for overstated class counts: combined-grade classes, and multiple-section classes. Since these two scenarios overstate the number of classes, the average class size reported by USOE is artificially low.

Utah Code and *Administrative Rules* Provide a Starting Point

In class-size calculations, the challenge for USOE is determining what constitutes a class.

The challenge for USOE in making the class-size calculation is determining what constitutes a class. The Utah State Board of Education has defined a class in *Administrative Rule* R277-463-1(A), which states:

> [An] individual class means a group of students organized for instruction and assigned to one or more teachers or other staff members for a designated time period. A class may meet multiple periods during the school day or multiple terms during the school year or both.

While the definition provided by the Utah State Board of Education in rule seems to provide adequate guidance, the method USOE staff used to identify a class seems to be too detailed. As a result, some classes are being counted as multiple classes. Within an elementary school, USOE staff use the following three data fields from their clearinghouse data to identify a unique class:

- **Course**—An elementary school student's particular grade,
- **Period**—A particular time during the day,
- **Section**—A unique identifier assigned by elementary schools

USOE's criteria for identifying unique classes may incorrectly count a single class as multiple classes.

We found that these three criteria are sometimes too specific and may incorrectly count a single class as multiple classes. Specifically, we found many cases where multiple grades taught within a single class were treated as separate classes and many cases where groups of students in a class were reported as multiple sections and treated as separate classes. Both types of cases raise concerns about the appropriateness of these criteria in identifying a unique class.

Each Grade in a Combined-Grade Classroom Is Incorrectly Identified as a Separate Class

29 of 40 school districts have combined-grade classes.

To better manage class sizes, schools sometimes have nontraditional classes where two grades of students are taught by a single teacher in a single classroom. We found that 29 of 40 school districts have combined-grade classes. Combined-grade classrooms occur in sparsely populated areas as well as in urban areas. In growth areas, combined-grade classrooms are sometimes used until a school has enough students to support an additional teacher and class in each grade.

To help illustrate the problem, Figure 3.1 gives an example of how two combined-grade classes were reported by Liberty School in Murray School District. Liberty School reported these classes according to guidance USOE staff shared with us. The two combined classes were reported as four separate records that broke down how many students were in each grade.

Figure 3.1 Liberty School's Two Combined Classes Were Reported as Four Separate Course Records. Liberty School has a combined first- and second-grade class and a combined fourth- and fifth-grade class. The two classes were correctly reported to USOE with a record for every grade.

Combined-grade classes are counted as separate, small classes.

Teacher	Total Students in Class	Number of Students Per Course
A	18 (8 First Graders and 10 Second Graders)	8
		10
B	20 (9 Fourth Graders and 11 Fifth Graders)	9
		11

While USOE requires schools to report these classes broken down by grade, we are concerned that no adjustment is made that combines the

Counting combined classes as two smaller classes artificially lowers the reported average class size.

multiple grades into a single class when calculating average class size. As a result, USOE's U-PASS web site treats the two grades as distinct classes, which lowers reported average class sizes because the number of classes is inflated. Figure 3.2 shows the impact of these combined grades being counted as separate classes at Liberty School.

Figure 3.2 Liberty School's Reported Average Class Sizes Are Too Small for the Combined Grade Classes. Liberty School has a combined first- and second-grade class and a combined fourth- and fifth-grade class. USOE counts the combined classes as two smaller classes, resulting in artificially lower average class sizes being reported by USOE for Liberty School. (See Appendix A for U-PASS Report.)

The reported class size for Liberty School is three to five students less per grade, because of combined-grade classes.

		Reported on School's U-PASS Web Site		Auditor Analysis		
Grade	Number of Students (A)	Number of Classes (B)	Class Size * (A/B)	Number of Classes (C)	Class Size (A/C)	Difference
K	58	3	19	3.0	19	0
1	46	3	15	2.5	18	3
2	59	3	19	2.5	24	5
3	53	2	26 *	2.0	27	1 *
4	54	3	18	2.5	22	4
5	56	3	18	2.5	22	4
6	50	2	25	2.0	25	0

** Due to the U-PASS website rounding down to the nearest whole number.*

As Figure 3.2 shows, the additional classes that USOE counted reduced the reported average class sizes by three to five students per class for the four grades with combined grades. We found similar results at other schools that have combined grades in Murray School District and talked with one of the principals at a school that had a few combined-grade classes. She was concerned about the U-PASS reported class sizes for her school because she considered actual classes at the school to be quite large.

Multi-grade classes also greatly decrease the reported average class sizes in rural areas, where one teacher may have a class of students in

grades kindergarten through sixth grade. These classes also get subdivided by grade and look like small classes of just a few students, which lowers class-size averages. The difficulty with these combined-grade classes is how to count a class when average class sizes must be reported by grade.

One way to count such classes is to treat them not as an entire class but as a portion of a class. In Figure 3.2, where the first- and second-grade class appears as two classes in the USOE calculation, we allocated half of a class to each grade. Allocating the class this way, we then applied the average class-size calculation. A total of 46 first graders at Liberty School divided by 2.5 classes total (two first-grade classes plus half of the multi-grade class) results in an average class size of 18 for first grade. USOE should consider incorporating a similar methodology to more accurately account for combined-grade classes.

We also found that USOE has been truncating (always rounding down) the average class-size values on its U-PASS web site. An example of USOE's rounding methodology is shown for third grade in Figure 3.2. We recommend that USOE round to the nearest number rather than always truncating class size averages on the U-PASS web site.

Multiple Sections Within a Class Are Incorrectly Identified as Individual Classes

Some schools break classes into smaller groups for a portion of the day and report these as separate sections to USOE. USOE incorrectly records these as separate, small classes.

Schools are creating ways to reduce the number of students a teacher works with for portions of the school day by breaking students into smaller groups and reporting them as nontraditional classes. We found that 10 of 40 school districts have some classes reported as multiple sections, which USOE has identified as separate classes. The problem with these classes is even more complex, because additional staff time is often required to offer smaller class sizes for portions of a day. No methodology currently exists to reflect the lowered class sizes for portions of a day.

One particular program that breaks classes into multiple sections is the extended-day program in Alpine School District. The extended-day program breaks an elementary class into two groups. One group of students comes in 75 minutes early, and the other group stays 75 minutes late. During each 75-minute period, teachers work with fewer students on core subjects such as reading and math. While the program allows for

smaller class sizes for a portion of the day, the class structure has been counted by USOE as two separate classes.

Figure 3.3 shows the average class size for Deerfield School in Alpine School District, which runs an extended-day program. Since every class in first through sixth grades runs the extended-day program, USOE had two times the actual number of classes in its calculation, severely understating the school's class sizes. Our calculation treats the two groups of students as a single class, but we acknowledge that an additional adjustment may be necessary to reflect the portion of a day where students are instructed in small groups.

Figure 3.3 Multiple Sections of a Class Are Considered Individual Classes and Lower the Average Class Size Reported by USOE for Deerfield School in the Alpine District. All classes except kindergarten have two sections per class. These sections double the number of records for this school, which USOE has counted as distinct classes. USOE's reported class sizes are half what they should be at Deerfield. (See Appendix B for U-PASS Report.)

Because of multiple sections, reported class sizes of 11 to 16 students are artificially low.

		Reported on School's U-PASS Web Site		Auditor Analysis		
Grade	Number of Students (A)	Number of Classes (B)	Class Size * (A/B)	Number of Classes (C)	Class Size (A/C)	Difference
K	128	5	25 *	5	26	1 *
1	117	10	11	5	23	12
2	144	12	12	6	24	12
3	140	10	14	5	28	14
4	127	8	15	4	32	17
5	124	8	15	4	31	16
6	130	8	16	4	33	17

** Due to the U-PASS website rounding down to the nearest whole number.*

The above figure shows that USOE computed the average class sizes for grades 1 through 6 at Deerfield School range from 11 to 16. We reviewed these class sizes, spoke to the principal, and found that the USOE-reported class sizes were half of the actual class sizes, which range

from 23.4 to 32.5. This example shows how reported average class sizes change dramatically based on how the USOE and schools treat sections. USOE only requires that section numbers at a school be unique. They have not given guidance as to when a section number should be used to define a new class. Section numbers have been inconsistently applied to these nontraditional classes. In fact, only seven Alpine schools report their extended day classes as in the previous example, while others do not. Therefore, we recommend USOE either provide more guidance on the use of section numbers beyond the requirement that they be unique or consider no longer using the section field for identifying classes.

While combining multiple sections into one class was the bigger issue in this example, the fact that not all students in the class meet together for the entire day also needs to be addressed. This particular example illustrates how difficult calculating class size can be. For 150 minutes of a day, the size for one of these extended-day classes is half that of the remaining day. USOE's calculation provides the lowest class size by breaking a class in two. Our calculation provides the highest class size by treating the two groups as a single class. We feel that the actual class size is somewhere between the two values and requires an adjustment that addresses the additional time the class is in session.

USOE needs to adjust how they count classes.

According to a district administrator, for the extended day program, teachers are hired as 1.14 full-time equivalents (FTEs) rather than the typical 1 FTE. In other programs, a subject specialist might work with students for a portion of a day. Accounting for the additional staff time may be one way to address the issue, or perhaps breaking the class into smaller pieces so that more accurate class sizes can be reported might be an option. Since these additional factors raise concerns about the adequacy of the current calculation prescribed in statute, we recommend that USOE work with the Legislature to determine whether the average class-size calculation should be adjusted to compensate for periods of smaller classes during the day and additional instruction time provided by teachers.

Data Integrity Concerns Exist with Class Size Data

Most of the data reported by school districts that USOE uses in class size calculations represent traditional classes and are correctly treated by

USOE. However, 8 percent of the classes counted by USOE appear to be incorrectly counted because they are nontraditional classes. This over-counting of classes impacts the reported average class sizes for many school districts, including some with problems so extensive that an average class size cannot be provided. In addition to the combined-grade and multiple-section classes discussed earlier in this chapter, other data integrity concerns that are statewide or specific to a particular district or school exist in USOE's clearinghouse data. Therefore, USOE should continue improving processes for collecting and monitoring data they receive.

Most Classes Have Traditional Structures

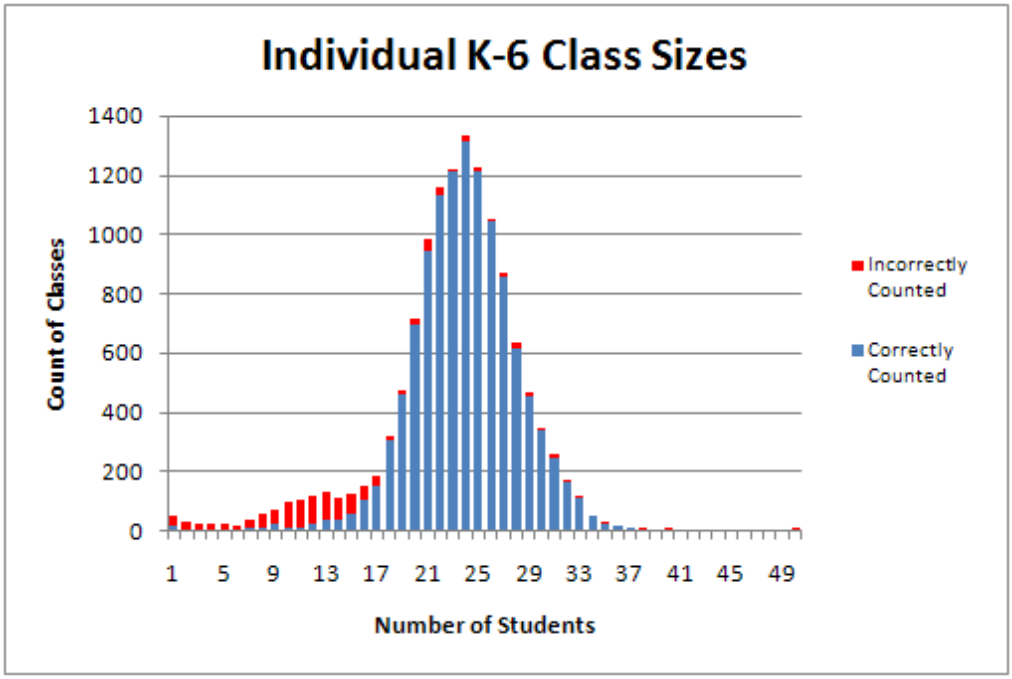
The way nontraditional classes are counted by USOE has caused concerns with 8 percent of data used in class-size calculations.

As the previous sections of this chapter have demonstrated, some elementary schools comply with state statute by implementing creative class structures to help reduce class sizes for particular grades or portions of a day. These nontraditional classes appear to be incorrectly counted in 8 percent of the data USOE uses in its class-size calculations. Data for these classes tend to lower class sizes, which has resulted in artificially low average class sizes being reported by USOE in the Superintendent's annual report.

To determine whether a class appeared to be correctly counted, we reviewed how many classes a teacher had assigned to him or her in the USOE's clearinghouse database. Our work focused on those teachers who were assigned multiple classes. In kindergarten and grade six when taught in a middle school, we found that it was acceptable for a teacher to have multiple classes since teachers instruct different groups of students throughout the day. However, teachers who instructed multiple classes of grades one through six in elementary schools were concerning, because these classes are traditionally full-day classes.

In the earlier part of this chapter, two issues, combined-grade and multiple-section classes, were discussed in detail. We isolated these classes and created the following Figure 3.4, which shows classes that appear to be correctly counted and classes that appear to be incorrectly counted.

Figure 3.4 Distribution of School District Class Sizes for Grades K-6 During the School Year 2007-08. This distribution shows the frequency of individual class sizes for all school districts. Classes that were identified as combined grade or multiple section are marked in red and skew the overall distribution toward lower class sizes.



Note: Appendix E provides our calculated average class sizes for all districts at the grade level.

Incorrectly counted classes tend to have lower reported class sizes than correctly counted classes

As Figure 3.3 shows, the majority of the classes that appear to be incorrectly counted have lower reported class sizes than the classes that appear to be correctly counted. Incorrectly counted classes contributed to the unexpected high occurrence of class sizes between 1 to 15 students, accounting for 75 percent of all classes with a size of 15 or less. While these classes only account for 8 percent of all data, enough of these classes exist to make USOE understate the class sizes for many school districts. Appendix C in the back of this report shows how many classes each of the 40 districts had for a particular class size. It provides additional detail as to which school districts had more extremely high and low class sizes.

Data Integrity Issues Impact Many School Districts' Reported Class Sizes

The level of data errors varies across school districts. Those with more nontraditional classes tend to have lower reported class sizes because more of their classes are incorrectly counted. We also found that data for sixth grade classes for some school districts seem to have more problems than

other grades. Some districts have so many nontraditional classes that USOE has been unable to calculate and report average class sizes for these school districts.

To understand the impact of these nontraditional classes, we focused on two school districts that varied widely in the percentage of classes that we omitted because USOE appeared to incorrectly count them. The following figure compares USOE's calculated average class size by grade and our calculated averages for the two selected districts, as well as the calculations for all districts combined.

Figure 3.5 Comparison of USOE and Audit Calculated Class Sizes for Alpine and Provo School Districts. The difference between USOE and audit calculated average class sizes vary depending on how many classes that appear to be incorrectly counted, which the audit team omitted. Because USOE frequently counted classes at the Alpine School District multiple times, audit calculations omitted 27 percent of the classes that USOE counted. Only 3 percent of the classes USOE counted at the Provo School District needed to be omitted.

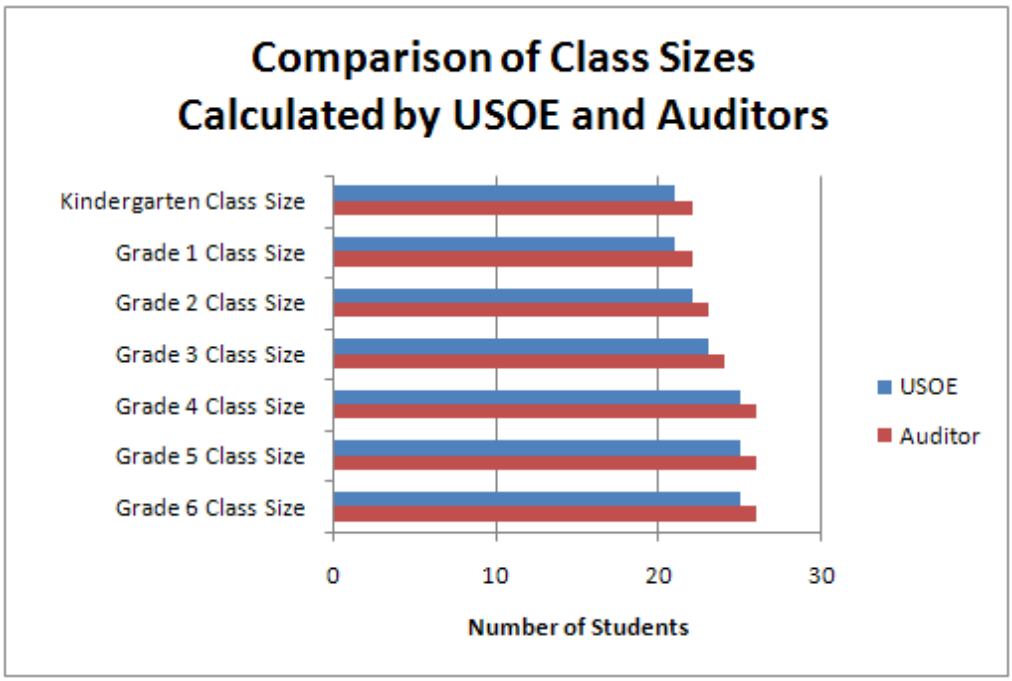
District-to-district comparisons may be unreliable for those using USOE's class-size information.

	Alpine (27% Omitted)			Provo (3% Omitted)			All Districts (8% Omitted)		
	USOE	Audit	Difference	USOE	Audit	Difference	USOE	Audit	Difference
K	23	23	0	23	23	0	21	22	1
1	21	23	2	22	22	0	21	22	1
2	21	24	3	22	23	1	22	23	1
3	23	25	2	23	24	1	23	24	1
4	23	25	2	26	26	0	25	26	1
5	23	27	4	25	26	1	25	26	1
6	24	27	3	24	25	1	25	26	1

The percentage of classes that appeared to be incorrectly counted was much higher for Alpine (27 percent) than Provo (3 percent). The impact of these classes is best understood in the differences between the values calculated by USOE and the audit team. For Provo School District, the average class size for most grades is close; however, the sizes for Alpine are off by about three students for every grade except kindergarten. The variance shown between the two school districts indicates that district-to-district comparisons may be unreliable for those using USOE's class-size information.

While district-to-district comparisons may be off, class-size information for all school districts combined appears to be fairly accurate. In making the calculation for all school districts, USOE used a median value for each grade rather than a mean. Doing so minimizes the effect of nontraditional classes. Figure 3.6 shows that our average class sizes were one student higher than USOE's calculated median values.

Figure 3.6 Grade-Level Class-Size Calculations by USOE and Auditors. USOE's approach took the median of all data reported by school districts. Our approach took the mean of traditional classes and omitted data from nontraditional class structures.



While all grades are off by one student, we feel that the reported median class size for all districts is more reliable than comparisons among school districts. To help understand the extent of this issue, tables showing USOE's class size, our class sizes for traditional classes, and the differences between the two can be found in Appendices D, E, and F of this report.

USOE did not report average class sizes for Juab and Piute districts.

Two concerns are apparent in this supplemental data. First, average class sizes were not reported for Juab and Piute school districts because incorrect course codes were used for some classes. USOE analysts were aware of this problem but have not corrected it. The other issue is the unusually high difference in values for sixth grade. Sixth grade is complex because some sixth-grade classes are taught in middle schools. Due to the

complex nature of sixth grade, USOE should review school districts' processes for coding these classes and enforce a standard among all districts. In addition to these issues, we identified several other issues that require additional review by USOE.

Smaller Data Integrity Issues Were Also Identified

Five smaller data integrity concerns were also identified.

We documented seven concerns relating to the integrity of class-size information. Two of these concerns, multiple-grade and multiple-section classes, have already been discussed. The following issues were also identified during our review:

- Special education classes reported as regular classes
- Multiple classes being reported as a single class
- Online classes inconsistently reported as regular classes
- Full-calendar-year classes reported as 180-day classes
- A combined-grade class reported as a single grade

To identify specific issues regarding the integrity of class-size data, we used a variety of techniques to gather data on these issues. We surveyed all 40 districts regarding how they report class-size data to USOE. In addition, we followed up with six school districts and reviewed class-size information by conducting student counts at selected schools, talking with district and school administrators, reviewing independent auditors' class-size counts, and verifying class-size data submitted to USOE's data clearinghouse. As a result, we found the following conditions that affect the accuracy of USOE's reported class sizes.

Some Special Education Classes Are Reported as Regular K-6 Classes. We found 93 of 11,002 teachers who were reported as teaching a regular class in the clearinghouse data but were reported as special education teachers in the CACTUS database, which tracks teacher licensing. Special education classes are smaller than regular classes due to the more intense levels of instruction needed. Therefore, we found that 108 of the 135 classes taught by the 93 teachers had class sizes of 15 or less. Not all special education classes are coded as regular classes; therefore, the problem is a case-by-case miscoding that we found for 17 of the 40 school districts.

One School Reports Two Classes as a Single Class. At one school in Alpine School District, students receive instruction from a core teacher

in the morning and a specialty teacher in the afternoon. Another class meets with the specialty teacher in the morning and the core teacher in the afternoon. Each specialty and core teacher teaches two classes, but the school records the two classes as one. We found nine such classes at a particular school, which USOE reported class sizes of 49 or more students. However, we calculate average class sizes to be between 25 to 30.

Online schools should not be coded as regular classes.

Online Schools Are Incorrectly Included in Traditional Class Reporting. Our review of class sizes of 35 or more revealed that all of Washington School District's class sizes over 37 belonged to their online school. Appendix C shows how many classes of each size school districts have. It shows that classes of 38, 39, 44, 53, 80, and 84 were recorded for Washington School District. However, all of these were Online schools should be identified for their unique characteristics and not included in the regular class-size calculation. These classes can be larger due to the flexible schedules that an online environment offers. We were made aware of five school districts with online schools; however, only one district's online classes were reported as regular classes.

Consideration of Full-Calendar-Year Teachers Is Needed. At one school in Jordan School District, some teachers were hired to teach a full-calendar-year schedule rather than the traditional schedule taught by most teachers. These teachers taught four tracks of students, but on a single school day, only three tracks of students are actually in class. The school coded these tracks as four small classes instead of one large class of 40 students. In this case, neither a class size of 10 or 40 was the actual class size. The school principal said the actual class size was 30, because 25 percent of the students were off track on every school day. Therefore, we recommend that USOE staff develop a way that schools can report these scenarios where class size does not match the number of students enrolled in a class.

Some Multi-Grade Classes Reported as a Single Grade. One class we found consisted of students from both fifth and sixth grades. The total class size was reported as 31. While the class size in this example is correct, the way the class was allocated between grades is a concern since too many classes were assigned to one grade and not enough to the other. This particular issue seems to have minimal impact, considering how many classes of a particular grade exist in a district. However, USOE

should be aware that this inconsistency in reporting multiple-grade classes exists.

Data integrity issues result from inconsistent reporting among school districts and the lack of adjustments to data by USOE.

This section has outlined five data integrity issues in addition to the two larger issues discussed earlier in the chapter. Each of the issues impacts average class sizes to some degree. These data integrity issues result from inconsistent reporting among school districts and the lack of adjustments to reported data that USOE receives from school districts. USOE has begun addressing some data integrity issues, and we support continued improvements.

USOE Should Continue Improving Its Processes for Collecting and Monitoring Data

By statute, USOE must require all LEAs, that is, school districts and charter schools, to comply with data collection and management procedures. These procedures were put in place to comply with ***Utah Code*** 53A-1-301(3)(e)(i)(A), which requires USOE to ensure that data is "comparable across schools and districts."

To ensure that data procedures are followed, USOE needs to audit data received from districts.

This is a challenging task given that there were 40 school districts and 63 charter schools in the 2007-08 school year. USOE holds semi-annual data conferences and monthly data meetings and maintains a web site to inform and update LEAs on needed improvements and changes. Despite these efforts, coding problems at the district level that impact class sizes still occur. In order to ensure that data procedures are followed, USOE needs to audit data received from districts. Although enrollment numbers are verified annually by independent CPA firms, class counts are not audited for accuracy, and it is crucial that the number of classes is verified.

USOE recently hired a data quality manager and also contracted with a technology consultant who reviewed their data systems in early 2008. We believe that USOE has made some efforts to improve data quality, but a more formal and well-defined process for data quality needs to be established. USOE has failed to correct some coding problems at the district level that were known to exist as early as 2006. No action has been taken to correct these problems. As a result, we have concerns with class-size numbers produced in annual reports.

As was outlined in this chapter, we identified many types of coding errors that exist in the school district data USOE uses to calculate class sizes. Therefore, on a sample basis, we think USOE should review and

audit data received from school districts. The resulting information would be valuable to further define and formalize data rules as well as train districts on their proper use. As a result, USOE will be more assured of the quality of their data, LEAs will be more responsive to improving data quality knowing it will be thoroughly reviewed, and end users can have more confidence in USOE-aggregated data.

Recommendations

1. We recommend that USOE develop a methodology to account for combined-grade classes and distribute classes to appropriate grades for class-size calculations.

2. We recommend that USOE round to the nearest number rather than always truncating class size averages on the U-PASS website.

3. We recommend that USOE either provide more guidance on the use of section numbers beyond the requirement that they be unique, or consider no longer using the section field for identifying classes.

4. We recommend that USOE work with the Legislature to determine whether the average class-size calculation should be adjusted to compensate for periods of smaller classes during the day and additional instruction time provided by teachers.

5. We recommend that USOE staff develop a way that schools can report scenarios where daily class size does not match the number of students enrolled in a class.

6. We recommend that USOE audit and review data they receive from school districts on a sample basis. This will enable them to further define and formalize data rules as well as train districts on their proper use collection at the district level.

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Chapter IV
Reporting of Staffing Ratios Should Be Improved

USOE-reported pupil-teacher and pupil-adult ratios may not be correct, because they do not include all teachers and adults.

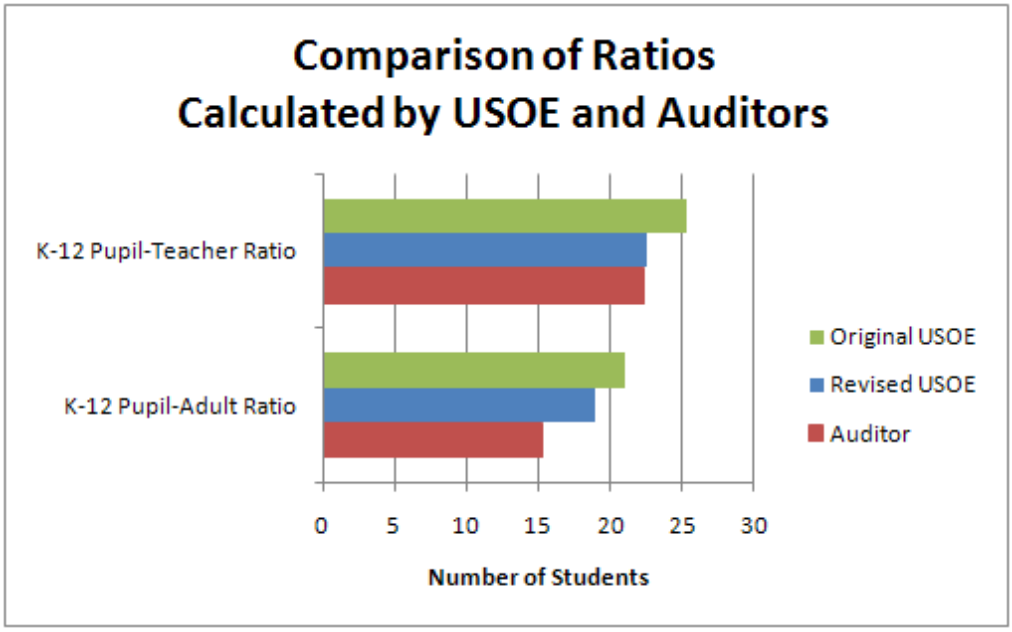
As part of this audit, we were asked to validate the pupil-teacher and pupil-adult ratios that are required by statute and reported in the *2008 Annual Report of the State Superintendent of Public Instruction Report* (Superintendent's annual report). We did an independent calculation of a statewide pupil-teacher ratio and a pupil-adult ratio based on USOE data. We found that USOE created a new methodology to report a K-12 pupil-teacher and pupil-adult ratio. Our review of their results showed that the ratios did not include all teachers and adults, and there was no grade-level detail, as required by statute. The new methodology reduces the reliability and usefulness of the reported results and makes historical reviews difficult.

The pupil-teacher ratio is a national measure used by the U.S. Department of Education (DOE) that includes all teachers. We found USOE's reported student-teacher ratio of 25.3 students per teacher was overstated by 2.9 students. Using USOE's data, we calculated the ratio to be 22.4 students per teacher. We recommend that USOE recalculate the student-teacher ratio to include all teachers.

USOE reported a new measure in 2008—a student-adult ratio required to meet a legislative mandate. We found USOE's reported student-adult ratio of 21 students per adult was overstated by 5.7 students. We believe a more accurate reflection is 15.3 students per adult. Our calculation includes all teachers and all instructional aides. USOE says they do not have the computer system capabilities to include all instructional aides in the ratio. We recommend USOE work with the Legislature to standardize what is included and to ensure that the ratio meets legislative need. If all instructional aides are to be included, we recommend that USOE expand their system capabilities to capture all adults or create a new method to capture the data.

Based on an exposure draft of our audit report, USOE revised their reported ratios because they found special education teachers were not included in their computation. The following figure shows USOE's original and revised ratios compared to auditor calculations.

Figure 4.1 Comparison of Calculated Pupil-Teacher and Pupil-Adult Ratios by USOE and Auditors. USOE revised their original ratios based on an exposure draft of this report. Original ratios excluded special education teachers.



As Figure 4.1 shows, USOE revised their pupil-teacher ratio to 22.5 and the pupil-adult ratio to 18.9 and reported those figures in the Superintendent's annual report. While we recognize that USOE added special education teachers in their revised ratios, we still believe they are missing certified school-based specialists from the pupil-teacher ratio and instructional aides from the pupil-adult ratio. Our calculations show that if all teachers were included, the pupil-teacher ratio would be 22.4, and the pupil-adult ratio would be 15.3. Appendices G through J show auditor computations of the ratios and USOE's original and revised ratios.

USOE Should Reconsider How They Calculate the Student-Teacher Ratio

The reported student-teacher ratios for fiscal year 2008 do not include all teachers. Consequently, comparisons among districts and with other states cannot be done. The student-teacher ratio is a national measure that is used to make comparisons among states. USOE understates the number of teachers. USOE automated the calculation of the student-

teacher ratios that they previously calculated manually, but the results do not capture all teachers.

Student-Teacher Ratio Should Include All Teachers

The pupil-teacher ratio is a national measure that should include all teachers of students with disabilities as well as specialized teachers.

In 2008, USOE computed a student-teacher ratio without including all teachers. The pupil-teacher ratio is a national measure that usually includes all teachers, including teachers of students with disabilities as well as other specialized teachers. The ratio results should be lower than the average class size, as discussed in Chapter III, because there are more teachers included in the student-teacher ratio. Typically, class size is the larger ratio because average class-size numbers only include core teachers while the student-teacher ratio includes all certified teachers.

Originally, USOE stated they included all teachers in the calculation. However, when we reviewed USOE results by school, we found that there were only 20,167.9 FTE teachers included.

In 2008, USOE computed a ratio for each school within a school district, and then reported the median value as the student-teacher ratio for that district. USOE also generated a statewide student-teacher ratio by taking the median value of all individual student-teacher ratios for the 867 schools in the state. According to USOE staff, reporting a median minimizes the potential skewing effect of nontraditional schools.

Appendix G shows the differences between USOE's original calculations and the auditor-calculated results. USOE's reported student-teacher ratios using a median compared to a mathematical calculation of enrollment divided by the number of teachers and reported a 25.3 median value. We calculated an overall student-teacher ratio by dividing enrollment by the total number of teachers and found it was 22.4 students per teacher.

USOE chose to report the median value, the middle value of all schools surveyed. It makes it difficult to compare the 2008 results to past ratios. The following figure shows the reported student-teacher ratios for the past three years and what was included in each ratio.

Figure 4.2 Historical Student-Teacher Ratios Reported in the Superintendent's Annual Reports (K-12). The 2008 student-teacher ratio reported was based on a median value.

Report Year	Ratio Reported	Statistic Reported	Teachers	Teacher Counts Included in Ratios
2006	22.13*	Mathematical calculation of enrollment/ teachers	All teachers included	22,251.0
2007	25.13	Mathematical calculation of enrollment/ teachers	Special education teachers excluded	20,156.2
2008	25.33	Median value of ratio	Initially USOE reported this included all teachers. Subsequently, they found that special education were excluded	20,167.9

* *In 2006, USOE reported another ratio, a student-teacher ratio of 25.19 that excluded special education teachers.*

In fiscal year 2006, USOE reported a student-teacher ratio of 22.13, showing that there were 22.13 students for each teacher in the state. The fiscal year 2007 reported ratio of 25.13 excluded special education teachers. For the 2008 ratio, USOE specifically stated that the ratios included special education teachers. It is unclear which teachers are missing from the calculations. We believe teachers are missing from the calculations because we compared the FTE by position report published by USOE for elementary, secondary, and special education teachers, and they show a total of 23,013.6 teachers. However, the student-teacher calculations only included 20,167.9 teachers.

It is unclear how the total number of teachers in USOE's calculations decreased when the total number of teachers increased in USOE's FTE by Position report and in CACTUS. From these data sources, we found a growth in the number of teachers from 2006. Also, we found that teacher growth matched enrollment growth. We found it problematic that the student-teacher ratio went up from 2006 to 2008 despite teacher growth matching enrollment growth.

In addition to the concerns we had with USOE's reported student-teacher ratio, we also had concerns with the student-teacher ratios for the State of Utah reported by the DOE. This is a concern because DOE statistics are used by various groups to make comparisons among states.

Lack of Grade-Level Detail Affects Reporting Of Utah's Student-Teacher Ratios by DOE

USOE's CACTUS reporting system assigns teachers to three categories: kindergarten, elementary, and secondary.

Utah's CACTUS reporting system does not allow much grade-level detail for teachers. There are major categories including kindergarten teachers, elementary teachers (1-6), and secondary teachers (7-12). Lack of grade-level detail creates reporting inconsistencies when the data is reported to the DOE. In this section, we will discuss the data issues with DOE; at the end of the report, we will discuss grade-level issues in more detail.

We are concerned with the student-teacher ratios published by the DOE for the State of Utah. Each year, DOE publishes student-teacher ratios by state that many use to make comparisons among states. We believe DOE's reported results may be incorrect because USOE's CACTUS system does not provide adequate grade-level detail.

Figure 4.3 shows the student-teacher ratios computed by DOE using USOE data compared to auditor-calculated ratios using more detailed USOE data.

Figure 4.3 Comparison of Student-Teacher Ratios Reported by DOE for the State of Utah and Computed by Auditors, FY 2006-07. The ratios reported by DOE vary widely among grade levels because of a mismatch between enrollment and teacher counts.

There is a mismatch between enrollment and teacher counts used in DOE's report of elementary and secondary school ratios.

	K-12	Kindergarten	Elementary	Secondary
DOE Reported	22.1	41.1	31.5	15.8
Audit Calculated	21.7*	24.6**	24.4***	24.1***

** Includes special education teachers.*
*** Computed by multiplying total enrollment by .59, which accounts for the majority of half-day kindergarten programs.*
****Does not include special education teachers.*
Source: National Center for Education Statistics. U.S. Department of Education (NCES). Nov. 2008: 14.

Our review of the pupil-teacher ratios by grade level, reported by DOE, shows large differences especially at the kindergarten and

elementary levels. We believe there are explanations for these differences that have not been reported. The following provides an explanation of the issues in each grade level.

Utah Has a Predominance of Half-Day Kindergarten Students. At the kindergarten level, DOE reports that Utah's pupil-teacher ratio is 41.1. This does not mean that each student is in a class with 40 other students. Utah has a predominance of half-day kindergarten programs. A teacher that teaches two half-day kindergartens with 20 students in each is reported as having a student-teacher ratio of 40.

To have a more meaningful student-teacher ratio for kindergarten, there needs to be a kindergarten adjustment for those half-time students. Changing, for example, the 40 (head count) half-day students to 20 FTE students would create a pupil-teacher ratio of 20, which reflects the actual classroom experience for the students. The teacher is responsible for 40 students, but the students are not in a class of 40. We believe a student FTE adjustment must be made for kindergarten because teachers are adjusted as an FTE, so we believe the students should be adjusted to FTE as well, so the units are comparable. If no adjustment is made, the pupil-teacher ratio is overstated.

Enrollment and Teacher Counts Are Mismatched for Elementary and Secondary Levels. DOE's reported results show a pupil-teacher ratio at the elementary level of 31.5 and a secondary pupil-teacher ratio of 15.8 students. These reported results do not appear reasonable given Utah's focused class-size-reduction funding on elementary grades, as discussed in Chapter II.

We recommend USOE adapt the CACTUS system to be able to provide grade-level detail or develop a new system.

We found the ratios are distorted for elementary and secondary because DOE computes an elementary ratio for grades 1-8 and a secondary ratio for grades 9-12. USOE's CACTUS system divides teachers into grades 1-6 and 7-12. Consequently, when DOE computes an elementary student-teacher ratio, they divide student enrollment for grades 1-8 by teacher counts for grades 1-6. The result is an artificially high elementary student-teacher ratio of 31.5. Matching enrollment and teachers for the proper grades, we calculated the ratio to be 24.4. A similar problem occurs when DOE computes a secondary student-teacher ratio. They divide the student enrollment for grades 9-12 by teacher counts for grades 7-12, resulting in an artificially low secondary student-

teacher ratio of 15.8. Matching enrollment and teachers for the proper grades, we calculated the ratio to be 24.1.

We recommend USOE adapt the CACTUS system to be able to provide grade-level detail or develop a new system so that the data they send to the DOE is reliable.

USOE Should Reconsider How They Calculate the Student-Adult Ratio

We are concerned with some categories of adults that were included in or excluded from the student-adult ratios that USOE reported. Specifically, we are concerned that USOE included administrators in the pupil-adult ratio and has not included all instructional aides in the pupil-adult ratio. Also, we are concerned that USOE placed certified teacher specialists in the pupil-adult ratio instead of the student-teacher ratio.

USOE used an educator-category ranking system they created to determine which certified teachers should be included in the ratios. Determining which teachers and adults are included in each ratio is important. We recommend the Legislature and USOE work together to standardize what is included in each ratio.

Student-Adult Ratio Should Include All Adults in an Instructional Setting

USOE's reported student-adult ratio of 21 students per adult is overstated.

USOE reported a new measure in 2008—a student-adult ratio required to meet a legislative mandate. USOE's reported student-adult ratio of 21 students per adult is overstated by 5.7 students. We believe a more accurate reflection is 15.3 students per adult; this ratio includes all teachers and all classified employees who work in an instructional setting with students. Appendix H shows USOE's reported results and our calculations based on the categories of adults in schools. The biggest difference between the numbers is that we included instructional aides using USOE's year-end survey results.

USOE created a ranking system to determine which teachers to include in the pupil-teacher and pupil-adult ratios. We reviewed the categories that were included in and excluded from the ratios and had

some concerns. Figure 4.4 shows the categories included in the ratios and the three with which we had concerns.

Figure 4.4 CACTUS Educator Categories and Ratios They Are Included In. Auditors are concerned with the placement of three categories of teachers and adults.

USOE should include school-based specialists and instructional aides in their ratios.

Category	Pupil-Teacher Ratio	Pupil-Adult Ratio	Auditor Concerns
Core Classroom Teachers (Includes K-6)	Yes	Yes	None
Subject Specialists (Includes Special Education, Art, Dance, Drama, Music, Health Education, Physical Education)	Yes	Yes	None
School-Based Specialists (Includes Reading and Math Specialists)	No	Yes	Should be in pupil-teacher ratio
Instructional Support Specialists (Includes Librarians and Media Specialists, Guidance Counselors,	No	Yes	None
Student Support Services (Includes Audiologists, School Psychologists, Social Workers, Speech-Language Pathologists)	No	Yes	None
Paraprofessionals (Included in CACTUS)	No	Yes	None
Instructional Aides	No	No	Should be in pupil-adult ratio
School Administrators (Includes Principals, Assistant Principals, and Administrative Interns)	No	Yes	Should not be included

We reviewed the categories included in each ratio and question three decisions made by USOE. We believe the Legislature should provide some help to resolve the following issues:

- Excluding school-based specialists from the pupil-teacher ratio
- Including school administrators in the pupil-adult ratio
- Excluding instructional aides from the pupil-adult ratio

We will discuss each of these concerns in the following sections.

School-Based Specialists May Be Incorrectly Excluded from Pupil-Teacher Ratio

We are concerned that school-based specialists were excluded from the pupil-teacher ratio. Although they are included in the pupil-adult ratio, we believe they should be included in the pupil-teacher ratio with all other certified teachers. These specialists are certified teachers who spend time in classrooms helping students learn. According to USOE staff, they put these specialists into the pupil-adult category because they are not considered the "teacher of record" for those students. They often work in "pull-out" situations with students needing additional instruction.

USOE should either instruct districts to place reading specialists in the correct category or capture the school-based specialists in the pupil-teacher ratio.

Excluding school-based specialists from the pupil-teacher ratio is of particular concern because some districts classify their certified reading specialists in this category. Consequently, in those districts, the student-teacher ratio does not capture all certified teachers and will not be comparable to other districts that put their reading specialists in a category that is captured in the pupil-teacher ratio. To make meaningful comparisons among districts, USOE should either instruct districts to place reading specialists in the correct category or should capture the school-based specialists in the pupil-teacher ratio.

School Administrators May Be Incorrectly Included in the Pupil-Adult Ratio

We are concerned that school administrators are included in the pupil-adult ratio. Although school administrators are licensed educators, they usually do not spend time in instruction. The statutory definition of pupil-adult ratio calls for those adults who work with students in an instructional setting to be included. Since school administrators usually do not spend time providing instruction, we question why they are included. USOE and the Legislature should determine whether administrators should be included or excluded.

USOE Excluded Some Adults from the Pupil-Adult Ratio

We are concerned that USOE has not included all adults, who work with students in an instructional setting, in the reported pupil-adult ratio. ***Utah Code*** requires that "the total number of adults who work with students in an instructional setting" be included in the pupil-adult ratio. USOE is undercounting the number of adults for the pupil-adult ratio

because USOE is only including those adults in the CACTUS database. Since some adults who instruct students are not included in the CACTUS database, USOE does not count all adults in their calculations. Some instructional aides and library and media support staff are not included in the ratio by USOE. We recommend USOE work with the Legislature to clarify which adults should be included in the ratio. If all adults are to be counted in the ratio, USOE may need to develop a system to capture the information so that the pupil-adult ratio includes all adults who teach students.

In December 2008 USOE calculated a student-adult ratio of 20.95 for fiscal year 2008 as shown in Appendix I. Our review of USOE's data shows that this ratio includes a total of 26,733.6 FTE adults. After realizing that ratio was wrong, because USOE had incorrectly excluded special education teachers, USOE recalculated the ratio with a total of 29,062.1 FTE adults and revised the student-adult calculation down to 18.89 as shown in Appendix J.

We independently calculated a statewide student-adult ratio using USOE's FTE by Position report. Our results are shown in Appendix H. We included a total of 33,629.9 FTE adults. This includes 25,888.5 staff in the categories detailed in the second note at the bottom of Appendix H, 7,359.4 instructional aides and 379.0 library and media support staff. Based on a total of 33,626.9 FTE adults, we calculated a student-adult ratio of 15.3.

Our limited review of USOE's ratio results indicates that about 4,500 FTE adults are not included in USOE's calculations. We did a limited review of USOE's ratios because USOE finalized their ratios at the end of our audit.

We believe the majority of the difference is that USOE is only including instructional aides in the CACTUS database. Our review of the CACTUS database shows that there are 3,206.8 FTE instructional aides in CACTUS compared to the 7,359.4 FTEs we included based on USOE's FTE by Position report. According to USOE's CACTUS educator categories,

> Paraprofessional entry into CACTUS is required only for Title I schools. For all other schools paraprofessional entry and maintenance is optional.

To meet legislative mandate for the pupil-adult ratio, USOE could make instructional aide entry into the CACTUS system mandatory or use a different method to gather the data from schools. Making entry into the system optional and then using the system to compute a ratio does not provide meaningful comparisons among schools or districts.

Reported Ratios Lack Grade-Level Detail

The pupil-teacher and pupil-adult ratios reported by USOE do not meet legislative mandate because they are not grade specific.

The pupil-teacher and pupil-adult ratios reported by USOE do not meet legislative mandate because they are not grade specific. In 2008, USOE reported each ratio by district for grades K-12 combined, but that may not provide enough detail for analysis. The USOE plans to ask the Legislature to eliminate the grade-level requirement. Their rationale is that they do not have the data to compute the ratios by grade because some teachers and most adults are not assigned to a specific grade, they are assigned to a school and work with several grades. If the Legislature needs the data by grade, the USOE may need to devise another way to capture it.

Grade-Level Detail Is specify

In H.B. 215 (2007 General Session), the Legislature added the requirement that USOE report a pupil-adult ratio by grade. In addition, the Legislature specifically added the grade-level requirement for the pupil-teacher ratio. Prior to H.B. 215, ***Utah Code*** only required a pupil-teacher ratio; there was no grade-level requirement.

Utah Code 53A-1-301(5)(a) specifies how the pupil-teacher ratio shall be calculated:

> by dividing the total number of students in a grade at a school by the total number of licensed classroom teachers in that **grade** at the school (emphasis added).

Utah Code 53A-1-301(5)(b) specifies how the pupil-adult ratio shall be calculated:

by dividing the total number of students in a grade at a school by the total number of adults who work with students in an instructional setting in that **grade** at the school (emphasis added).

Although statute requires the ratios to be reported by grade, USOE does not have a system capable of reporting all teachers and adults by grade.

In prior years, USOE reported pupil-teacher ratios in large categories—K-6, 7-12, and K-12—and only included classroom teachers because they were grade specific. USOE reported a separate K-12 ratio including special education teachers. Because the reported ratio only included classroom teachers and did not include all special education teachers, this reported ratio was more like a proxy for class size than a pupil-teacher ratio.

Although statute requires the ratios to be reported by grade, USOE does not have the capability to report all teachers and adults by grade. Instead they reported each ratio, by district, in the Superintendent's report.

Grade-Level Detail Provides Valuable Information

Although grade-level detail provides useful information to show how staffing resources are allocated by grade, USOE does not have the data to compute the ratios by grade. Only core teachers are assigned at a grade level. Other certified teachers and adults are not assigned to one grade; they work with multiple grades.

To demonstrate the type of information required by statute and available at the school level, we computed the two ratios per grade for two schools by reviewing human resources data at the district office and interviewing school principals. The principals estimated the amount of time staff spent in each grade so we could allocate their time by grade. Our calculations appear in Appendix K.

The appendix shows that the number of students remains the same, yet the denominator (teachers and adults) increases. Consequently, each ratio will be smaller than the preceding one as more teachers and staff are added to the denominator. All teachers and instructional aides are reported as FTEs.

The two examples in Appendix K demonstrate the differences among average class size, the pupil-teacher ratio, and the pupil-adult ratio. As the examples show, there are additional certified teachers and instructional

aides, working in schools to help students learn, that are not counted in average class size calculations.

Although grade-level detail is required, it is not currently available for some certified teachers and many adults working in schools. The detail is only available at the school level. Gathering the data from the school level may be difficult. Currently, USOE surveys districts to gather a number of data items. However, we are not aware of any surveys that are done at the school-building level.

Recommendations

1. We recommend that USOE reevaluate the way they calculate the student-teacher ratio to insure they capture all teachers.

2. We recommend that USOE reevaluate their reporting of a median value.

3. We recommend that USOE work with the Legislature to determine which teachers and adults should be included in each ratio.

4. We recommend that USOE provide direction to districts regarding the use of teacher and adult categories.

5. We recommend that USOE develop a system to count all instructional adults and aides in schools and report them in the student-adult ratio.

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Appendices

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Appendix A

U-PASS Report for Liberty School in Murray School District

Utah Performance Assessment System for Students

Monday, January 12, 2009 U-PASS V2.0

U-PASS | U-PASS CRT Reports | Additional Information | USOE Home | Utah.gov | Other Reports

School Summary Information	
Number of Principal (s)	1
Number of Assistant Principal (s)	0
Number of Counselor (s)	0
Number of Teachers	22
Professional Staff (Endorsement)	20 or 87%
Professional Staff (Graduate)	17 or 73.9%

Liberty School
140 W 6100 S
MURRAY, UT 84107 **2007-08**

Student Summary Info	
Average Daily Attendance	95%
Students Absent > 10 days	139

Enrollment Breakdown		
Students Enrolled	377	
African American	8	2.1%
American Indian	5	1.3%
Asian	4	1.1%
Hispanic	42	11.1%
Not Declared	0	0%
Pacific Islander	1	0.3%
White	317	84.1%
Engl. Language Learners	4	1.1%
Socio-Economic Status	149	39.5%
Students With Disabilities	42	11.1%
Male	180	47.7%
Female	197	52.3%

Average Class Size			
Course Name	Number of Classes	Class Size	Avg Grade
Elementary Grades			
Kindergarten	3	19	n/a
Grade 1	3	15	n/a
Grade 2	3	19	n/a
Grade 3	2	26	n/a
Grade 4	3	18	n/a
Grade 5	3	18	n/a
Grade 6	2	25	n/a

IOWA Tests	Grade	
	3	5
Reading	58	51
Language/Writing	45	42
Mathematics	47	38
Core Total	49	43
Social Studies	63	40
Science	59	44
Composite	55	43

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Appendix B

U-PASS Report for Deerfield School in Alpine School District

Utah Performance Assessment System for Students

Monday, January 12, 2009 U-PASS V2.0

U-PASS | U-PASS CRT Reports | Additional Information | USOE Home | Utah.gov | Other Reports

School Summary Information	
Number of Principal (s)	1
Number of Assistant Principal (s)	0
Number of Counselor (s)	1
Number of Teachers	40
Professional Staff (Endorsement)	38 or 90.5%
Professional Staff (Graduate)	12 or 28.6%

Deerfield School
4353 W HARVEY BLVD
CEDAR HILLS, UT 84062 **2007-08**

Student Summary Info	
Average Daily Attendance	99%
Students Absent > 10 days	30

Enrollment Breakdown		
Students Enrolled	905	
African American	6	0.7%
American Indian	0	0%
Asian	12	1.3%
Hispanic	11	1.2%
Not Declared	0	0%
Pacific Islander	8	0.9%
White	885	96%
Engl. Language Learners	0	0%
Socio-Economic Status	59	6.4%
Students With Disabilities	70	7.6%
Male	483	52.4%
Female	439	47.6%

Average Class Size			
Course Name	Number of Classes	Class Size	Avg Grade
Elementary Grades			
Kindergarten	5	25	n/a
Grade 1	10	11	n/a
Grade 2	12	12	n/a
Grade 3	10	14	n/a
Grade 4	8	15	n/a
Grade 5	8	15	n/a
Grade 6	8	16	n/a

IOWA Tests	Grade	
	3	5
Reading	73	70
Language/Writing	62	71
Mathematics	61	68
Core Total	67	70
Social Studies	75	63
Science	73	73
Composite	72	71

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Appendix C

Frequencies of K-6 Class Sizes from USOE's Data Warehouse
(Data Used for Superintendent's Annual Report and U-PASS Website)

Student Count	Alpine	Beaver	Box Elder	Cache	Carbon	Daggett	Davis	Duchesne	Emery	Garfield	Grand	Granite	Iron	Jordan	Juab	Kane	Logan	Millard	Morgan	Murray	Nebo	North	North Summit	Ogden	Park City	Provo	Rich	Salt Lake	San Juan	Sevier	South Sanpete	South Summit	Tintic	Tooele	Uintah	Wasatch	Washington	Wayne	Weber	All Districts
1	7		1	2				1		1		11	5	5										2		2		4					5	2	2				7	**57**
2	1		5			1		1		8		2		2		3		3						2		1							3				1		2	**35**
3	1		5					1		3		1		2		5		1								1		1						4					3	**28**
4			2			1				2		4				2		1										2	3				1	4					1	**23**
5	2		5									4		3		1										1		1	1					3						**21**
6	4		1			1								4		2				1								3			1						1		1	**19**
7	8		2			1								13						1				1				2	1	4			1					1	1	**36**
8	9						1			1		3		28		1				2	1			1		1		5	1	1							2		1	**58**
9	19			1		2	2	1		1		1	2	21						3				1			1	5	1	1							2	2	3	**69**
10	37		1			1	2	1				12	1	23			1			2					2			6									5		2	**96**
11	43		1	1		2	3		2	1		9		18						4	1			1	1			7					1	2			4	1	4	**106**
12	47		1	1		1	9	2	1			14		11			1			2	1			3			2	9	3	2			1	3			4		2	**120**
13	53	1	1	1			4	5	3	1		13		9			1			2	2	5		2	2	3	1	8	1		1		1	5			3		1	**129**
14	49						4	3	1	2		8	1	4						2	5		1	2		3		8	4					2	2		6	1	3	**111**
15	44	1	1		1		4	4	2	1		17	1	7			3				6	1				1	3	9	4				2		2	1	5	2	3	**125**
16	51	3	2	2	2		5	5	3	2		14		8		1	3		1		8	1	2	3	1	3	2	10	2	1	1			3	6		4		1	**150**
17	40	4	1	4	3		13	4	3	4		23	3	11		1	7	1		1	10	6	1	2	1	3	1	13	4	2		1	1	1	1	4	9		3	**186**
18	34	3	11	6	7		20	3	3	2		36	3	26		2	10			1	31	6	7	3	5	4	1	21	5	4	5	2		8	5	2	25	2	14	**317**
19	51	1	8	15	8		43	4	4	1	3	55	4	37		1	12	4	1	6	37	4	5	6	6	14		39	11	4	2	5		9	14	2	30	3	24	**473**
20	60	1	22	17	9		70	11	6	1	4	59	10	65		3	18	12	5	6	79	4	6	13	7	12	1	38	7	7	4	17		9	28	16	58	4	32	**721**
21	76	4	19	32	8		119	17	8	1	2	75	21	96	8	8	31	11	6	10	77	20	10	14	16	29	2	46	2	11	17	3		15	28	16	70		59	**987**
22	98	6	18	31	14		135	9	3	2	6	126	23	150	8	5	19	10	1	21	62	8	3	21	14	28		63	5	11	21	24		28	17	13	87	1	79	**1170**
23	81	1	21	47	13		171	5	2	1	2	140	22	212		3	21	9	4	17	60	2	2	34	21	29		67	9	15	10	12		28	12	4	71	1	81	**1230**
24	113	2	21	45	6		185	1	4	1	4	165	21	244		1	13	5	3	14	75	5	4	44	13	44		58	7	12	10	4		31	9	11	76		86	**1337**
25	91	3	23	55	8		158	8	6	1	7	183	15	223		2	13	4	6	23	49	4	1	30	17	30		46	11	10	7	2		28	5	14	69		80	**1232**
26	104	3	30	41	1		132	2	3		3	169	13	202			12	3	6	14	46	8		26	9	32		31	2	9	6	1		28	7	11	49		52	**1055**
27	75		21	33	2		129	4	1		3	118	16	156			14	1	3	11	43			24	13	24		19	2	10	3			42	7	15	50		34	**873**
28	52	5	12	19			86	2	2			87	20	112	4		9	2	2	5	26			22	8	11		22		11	1	2		21	6	11	39		43	**642**
29	41		7	8			66	6	3			64	14	78	4		7	1	4	2	19	2		28	2	6		16		7				22	12	9	19	1	19	**467**
30	44	1	15	14			40	2		1		44	7	44	4		1	1		1	16			21	1	4		15	1	4		1		10	17	9	15		15	**348**
31	38	1	24	13			24	7				31	5	33							5	6		6		6		12		2				6	5	6	15		14	**259**
32	25		19	3	1		16	3				18		13				3			6			19		2		16		1				4	3	3	3		15	**173**
33	21		6	7	1		9					11		13				1			5			12		2		9		3				4	1	1	6		8	**120**
34	20			1			3					5		2										4		1		5						1			1		5	**48**
35	15			2	1		1					2		1										2													6			**30**
36	10		1	1								1												1													2		1	**17**
37	4																													1							1			**6**
38	6											1																2									1			**10**
39	4																																				1			**5**
40	6									1																									1					**8**
41	3											1																												**4**
42	1																																							**1**
43	2																																							**2**
44	3																																				1			**4**
45	1																																							**1**
46	2																																							**2**
49	1																																							**1**
50	1																																							**1**
51	2																																							**2**
52	1																																							**1**
53	1																																				1			**2**
54	1																																							**1**
55	2																																							**2**
61	1																																							**1**
80																																					1			**1**
84																																					1			**1**

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Appendix D
USOE's Reported Class Size
2008 Superintendent's Annual Report
(2007-08 School Year)

District	K	1	2	3	4	5	6
Alpine	23	21	21	23	23	23	24
Beaver	26	20	21	20	24	20	24
Box Elder	20	21	20	23	24	24	26 [1]
Cache	21	22	24	24	26	25	22 [1]
Carbon	22	20	21	22	23	22	24
Daggett	8	7	10	11	3	11	12
Davis	22	22	23	24	25	26	26
Duchesne	17	19	21	22	25	25	17
Emery	22	17	22	19	22	23	21
Garfield	14	12	12	13	14	12	15
Grand	23	25	22	21	26	20	26
Granite	21	23	23	24	25	24	25
Iron	22	22	21	23	24	27	28
Jordan	23	23	23	24	25	24	22
Juab							6
Kane	14	14	16	16	16	16	15
Logan	20	20	21	23	23	24	22 [1]
Millard	19	19	21	21	29	23	16
Morgan	20	21	24	26	29		26
Murray	23	21	21	23	23	20	24
Nebo	20	20	21	25	25	25	27
North Sanpete		19	21	21	22	22	4
North Summit	19	18	18	20	18	22	25 [1]
Ogden	25	23	25	24	28	26	29
Park City	23	21	22	22	23	26	23 [1]
Piute							
Provo	23	22	22	23	26	25	24
Rich	14	17	18	17	15	17	14 [1]
Salt Lake	21	21	21	21	23	23	24
San Juan	16	16	18	19	20	21	24 [1]
Sevier	21	20	22	25	26	26	18 [1]
South Sanpete	23	21	21	24	22	24	20 [1]
South Summit	19	22	22	20	22	23	
Tintic	5	11	7	6	8	15	4
Tooele	22	22	24	23	24	25	25
Uintah	19	21	22	23	24	26	20
Wasatch	23	20	21	22	26	27	15
Washington	21	20	22	24	25	24	26
Wayne	11	19	18	20	17	29	18 [1]
Weber	21	23	22	22	26	26	26
District Median	**21**	**21**	**22**	**23**	**25**	**25**	**25**

[1] Some sixth-grade values were imputed from the median of Middle School Language Arts 6, Mathematics 6, and Science 6 average class sizes.

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Appendix E

Auditor's Calculated Class Sizes Omitting Combined Grades and Multiple Sessions

(2007-08 School Year)

District	Percent Omitted	K	1	2	3	4	5	6
Alpine	27%	23	23	24	25	25	27	27
Beaver	0	26	20	21	20	24	20	24
Box Elder	8	21	22	22	26	26	26	30
Cache	1	21	22	24	24	27	26	26
Carbon	0	22	20	21	22	23	22	24
Daggett	80	6	N/A	N/A	N/A	N/A	N/A	12
Davis	3	22	23	24	25	26	27	27
Duchesne	10	17	19	21	23	26	25	24
Emery	3	22	17	22	19	24	24	21
Garfield	46	22	18	19	18	22	17	27
Grand	0	23	25	22	21	26	20	26
Granite	6	21	23	24	25	26	26	27
Iron	6	22	23	22	23	26	27	28
Jordan	8	23	23	23	24	26	27	27
Juab	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Kane	29	18	21	21	22	21	24	15
Logan	3	20	20	21	23	23	24	24
Millard	7	21	21	23	23	29	25	21
Morgan	0	20	21	24	26	29	N/A	26
Murray	15	23	24	23	24	26	23	25
Nebo	2	20	20	21	25	25	25	27
North Sanpete	46	N/A	19	21	21	22	21	13
North Summit	0	19	18	18	20	18	22	21
Ogden	4	25	23	25	25	29	27	26
Park City	3	23	21	23	24	24	26	23
Piute	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Provo	3	23	22	23	24	26	26	25
Rich	0	14	17	18	17	15	17	14
Salt Lake	10	21	21	22	23	24	26	27
San Juan	9	17	17	20	21	22	23	23
Sevier	5	22	21	23	27	27	28	25
South Sanpete	0	23	21	21	24	22	24	22
South Summit	1	19	22	22	20	22	23	22
Tintic	69	12	11	17	15	N/A	15	N/A
Tooele	8	22	23	25	25	26	28	27
Uintah	4	19	21	22	23	24	26	26
Wasatch	1	23	20	21	22	26	27	29
Washington	3	21	20	22	24	26	25	25
Wayne	0	11	19	18	20	17	29	18
Weber	4	21	23	22	23	26	27	27
All Districts	**8%**	**22**	**22**	**23**	**24**	**26**	**26**	**26**

N/A - Denotes that no data was available for a particular grade within a school district or that all data reported to USOE was omitted due to data integrity concerns.

Percent Omitted - The percentage of records USOE used in their calculations, which auditors excluded from their calculations due to combined grades and multiple sections being reported as individual classes.

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Appendix F
Difference Between USOE's and Auditors' Class Sizes
(2007-08 School Year)

District	K	1	2	3	4	5	6
Alpine	0	2	3	2	2	4	3
Beaver	0	0	0	0	0	0	0
Box Elder	1	1	2	3	2	2	N/A
Cache	0	0	0	0	1	1	N/A
Carbon	0	0	0	0	0	0	0
Daggett	(2)	N/A	N/A	N/A	N/A	N/A	0
Davis	0	1	1	1	1	1	1
Duchesne	0	0	0	1	1	0	7
Emery	0	0	0	0	2	1	0
Garfield	8	6	7	5	8	5	12
Grand	0	0	0	0	0	0	0
Granite	0	0	1	1	1	2	2
Iron	0	1	1	0	2	0	0
Jordan	0	0	0	0	1	3	5
Juab	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Kane	4	7	5	6	5	8	0
Logan	0	0	0	0	0	0	N/A
Millard	2	2	2	2	0	2	5
Morgan	0	0	0	0	0	N/A	0
Murray	0	3	2	1	3	3	1
Nebo	0	0	0	0	0	0	0
North Sanpete	N/A	0	0	0	0	(1)	9
North Summit	0	0	0	0	0	0	N/A
Ogden	0	0	0	1	1	1	(3)
Park City	0	0	1	2	1	0	N/A
Piute	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Provo	0	0	1	1	0	1	1
Rich	0	0	0	0	0	0	N/A
Salt Lake	0	0	1	2	1	3	3
San Juan	1	1	2	2	2	2	N/A
Sevier	1	1	1	2	1	2	N/A
South Sanpete	0	0	0	0	0	0	N/A
South Summit	0	0	0	0	0	0	N/A
Tintic	7	0	10	9	N/A	0	N/A
Tooele	0	1	1	2	2	3	2
Uintah	0	0	0	0	0	0	6
Wasatch	0	0	0	0	0	0	14
Washington	0	0	0	0	1	1	(1)
Wayne	0	0	0	0	0	0	N/A
Weber	0	0	0	1	0	1	1
All Districts	**1**	**1**	**1**	**1**	**1**	**1**	**1**

Note: Value in parentheses indicate that auditors' computed class size was lower than USOE's by that value.

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Appendix G

2008 Pupil-Teacher Ratio K-12

(2007-08 School Year)

District	Enrollment* A	Teacher FTE Count** B	Auditor Calculated Ratio (A/B) C	USOE's Original Median D	Difference (D-C) E
Alpine	58,665	2,317.2	25.3	26.9	1.5
Beaver	1,562	72.9	21.4	22.8	1.4
Box Elder	10,931	488.5	22.4	24.7	2.3
Cache	14,194	607.9	23.4	26.4	3.1
Carbon	3,562	184.5	19.3	22.1	2.8
Daggett	134	12.8	10.4	11.2	0.7
Davis	64,551	2,875.7	22.4	25.5	3.0
Duchesne	4,224	219.5	19.2	20.8	1.5
Emery	2,262	125.3	18.1	20.4	2.3
Garfield	933	64.4	14.5	15.7	1.2
Grand	1,486	85.8	17.3	20.1	2.7
Granite	67,948	3,148.6	21.6	26.2	4.6
Iron	8,643	406.8	21.2	24.6	3.3
Jordan	80,187	3,278.6	24.5	27.5	3.0
Juab	2,147	94.9	22.6	25.4	2.8
Kane	1,178	69.7	16.9	19.9	3.0
Millard	2,852	156.2	18.3	20.7	2.4
Morgan	2,183	100.6	21.7	23.2	1.5
Nebo	26,588	1,101.1	24.1	25.3	1.2
North Sanpete	2,340	126.0	18.6	21.7	3.1
North Summit	1,000	57.3	17.4	19.6	2.1
Park City	4,443	235.0	18.9	21.5	2.6
Piute	300	25.2	11.9	16.2	4.2
Rich	431	33.3	13.0	15.2	2.3
San Juan	2,844	186.8	15.2	17.4	2.2
Sevier	4,475	221.0	20.3	23.6	3.3
South Sanpete	2,911	161.9	18.0	21.3	3.3
South Summit	1,374	75.2	18.3	19.9	1.7
Tintic	238	22.1	10.8	11.5	0.7
Tooele	12,988	598.2	21.7	24.7	3.0
Uintah	5,952	267.8	22.2	25.5	3.3
Wasatch	4,588	228.0	20.1	23.8	3.7
Washington	25,295	1,159.6	21.8	24.0	2.2
Wayne	548	35.6	15.4	15.4	0.1
Weber	30,097	1,322.3	22.8	26.0	3.2
Salt Lake	23,536	1,125.5	20.9	24.7	3.8
Ogden	12,603	542.7	23.2	27.1	3.8
Provo	13,083	590.9	22.1	25.7	3.6
Logan	5,755	297.5	19.3	22.1	2.7
Murray	6,426	290.7	22.1	24.2	2.1
District Total	**515,457**	**23,013.6**	**22.4**	**25.3**	**2.9**

* Enrollment as of 10/01/07

** USOE's Full Time Equivalents (FTEs) by Position, Licensed and Classified Personnel FY 2008.

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Appendix H

2008 Pupil-Adult Ratio K-12

(2007-08 School Year)

		Adult FTE Counts				Student-Adult Ratios		
DISTRICT	K-12 Enrollment A	Adult** FTE Counts* B	Library and Media Support Staff* C	Instructional Aides* D	Total (B+C+D) E	Auditor Calculated Ratio A/E F	USOE's Original Median *** G	Difference (G-F) I
Alpine	58,665	2,572.8	57.1	700.6	3,330.6	17.6	24.2	6.6
Beaver	1,562	79.5	2.9	33.2	115.5	13.5	19.0	5.5
Box Elder	10,931	549.6	12.0	134.0	695.6	15.7	21.9	6.2
Cache	14,194	695.4	0.0	299.9	995.3	14.3	19.9	5.6
Carbon	3,562	209.6	4.4	81.4	295.4	12.1	13.3	1.2
Daggett	134	13.4	0.0	4.8	18.2	7.4	10.3	2.9
Davis	64,551	3,230.1	60.5	970.5	4,261.1	15.1	22.5	7.4
Duchesne	4,224	246.5	4.9	86.2	337.6	12.5	16.0	3.5
Emery	2,262	136.8	5.9	37.8	180.5	12.5	15.8	3.3
Garfield	933	73.2	4.5	26.0	103.6	9.0	9.6	0.6
Grand	1,486	97.8	0.0	45.0	142.8	10.4	13.3	2.9
Granite	67,948	3,555.1	0.0	786.2	4,341.2	15.7	23.2	7.5
Iron	8,643	452.9	10.1	233.1	696.1	12.4	19.8	7.4
Jordan	80,187	3,700.5	13.0	889.7	4,603.1	17.4	23.2	5.8
Juab	2,147	103.9	7.9	37.6	149.4	14.4	22.4	8.0
Kane	1,178	75.1	5.0	30.3	110.4	10.7	13.0	2.3
Millard	2,852	173.1	0.0	66.4	239.5	11.9	12.3	0.4
Morgan	2,183	107.6	3.0	26.3	136.9	15.9	20.8	4.9
Nebo	26,588	1,254.8	16.9	373.6	1,645.3	16.2	20.6	4.4
North Sanpete	2,340	135.0	3.8	67.7	206.5	11.3	11.6	0.3
North Summit	1,000	64.7	0.7	19.5	84.8	11.8	16.2	4.4
Park City	4,443	268.1	1.9	61.3	331.3	13.4	17.3	3.9
Piute	300	27.3	1.0	10.1	38.4	7.8	9.4	1.6
Rich	431	36.9	0.0	6.8	43.6	9.9	11.5	1.6
San Juan	2,844	218.6	4.6	60.1	283.4	10.0	10.5	0.5
Sevier	4,475	239.5	8.8	82.2	330.5	13.5	20.2	6.7
South Sanpete	2,911	182.5	7.0	105.4	294.9	9.9	11.8	1.9
South Summit	1,374	84.3	1.5	24.2	110.0	12.5	15.1	2.6
Tintic	238	24.2	0.4	5.8	30.4	7.8	10.1	2.3
Tooele	12,988	654.8	20.5	173.9	849.3	15.3	20.6	5.3
Uintah	5,952	294.6	10.0	91.5	396.1	15.0	16.1	1.1
Wasatch	4,588	261.0	1.5	76.7	339.2	13.5	19.1	5.6
Washington	25,295	1,288.9	41.8	197.5	1,528.2	16.6	20.6	4.0
Wayne	548	38.7	1.9	10.4	51.0	10.8	14.1	3.3
Weber	30,097	1,497.0	27.3	351.4	1,875.6	16.0	23.0	7.0
Salt Lake	23,536	1,299.5	6.5	481.6	1,787.6	13.2	15.0	1.8
Ogden	12,603	622.1	3.5	141.8	767.4	16.4	18.5	2.1
Provo	13,083	662.8	13.4	270.9	947.1	13.8	21.4	7.6
Logan	5,755	329.7	6.3	157.0	492.9	11.7	17.6	5.9
Murray	6,426	330.8	8.6	101.3	440.7	14.6	20.0	5.4
District Total	**515,457**	**25,888.5**	**379.0**	**7,359.4**	**33,626.9**	**15.3**	**21.0**	**5.7**

* USOE's Full Time Equivalents (FTEs) by Position, Licensed and Classified Personnel Report FY 2008

** Using USOE's definition of an adult: any person assigned at the school as a "teacher", a guidance counselor, a librarian & media specialist, a school administrator, a school-based specialist, or a student support service person in the CACTUS database.

*** USOE's original ratios as of December 2008 as shown in Appendix I. USOE's revised ratios as of January 2009 as shown in Appendix J.

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Appendix I

USOE's Original K-12 Staffing Ratios

(For 2007-2008 School Year As of December 2008)

District	Median Student-Teacher Ratio	Median Student-Adult Ratio
Alpine	26.87	24.18
Beaver	22.80	19.00
Box Elder	24.70	21.93
Cache	26.42	19.93
Carbon	22.06	13.35
Daggett	11.19	10.29
Davis	25.48	22.49
Duchesne	20.78	15.99
Emery	20.38	15.81
Garfield	15.71	9.63
Grand	20.05	13.34
Granite	26.20	23.22
Iron	24.59	19.80
Jordan	27.45	23.16
Juab	25.43	22.40
Kane	19.86	13.04
Millard	20.65	12.33
Morgan	23.18	20.84
Nebo	25.31	20.63
North Sanpete	21.67	11.58
North Summit	19.58	16.17
Park City	21.51	17.28
Piute	16.15	9.41
Rich	15.25	11.49
San Juan	17.41	10.53
Sevier	23.58	20.23
South Sanpete	21.26	11.83
South Summit	19.94	15.15
Tintic	11.50	10.14
Tooele	24.71	20.56
Uintah	25.48	16.10
Wasatch	23.82	19.10
Washington	24.00	20.57
Wayne	15.44	14.07
Weber	25.97	22.97
Salt Lake	24.74	15.01
Ogden	27.06	18.47
Provo	25.70	21.37
Logan	22.05	17.56
Murray	24.24	20.04
DISTRICT MEDIAN	**25.33**	**20.95**

Notes:
A "student" is any person enrolled in K-12 as of October 1, 2007

A "teacher" is any person assigned at the school as a Regular Classroom Teacher (excluding Preschool Teachers) or a Special Education Teacher.

An "adult" is any person assigned at the school as a "teacher," a Guidance Counselor, a Librarian & Media Specialist, a School Administrator, a School-Based Specialist, a Student Support Service person, or a Licensed Paraprofessional in the CACTUS database.

To see the ratios at the school level on which these median are based, please go to the online version of the Superintendent's Annual Report found at http://www.schools.utah.gov/finance/

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Appendix J

USOE's Revised K-12 Staffing Ratios

(For 2007-2008 School Year As of January 2009)

District	Median Student-Teacher Ratio	Median Student-Adult Ratio
Alpine	24.87	21.93
Beaver	21.38	18.00
Box Elder	22.33	19.88
Cache	24.12	18.27
Carbon	19.80	12.54
Daggett	10.07	9.33
Davis	23.35	20.41
Duchesne	18.19	14.32
Emery	18.36	14.71
Garfield	13.93	9.20
Grand	17.84	12.31
Granite	23.70	21.40
Iron	21.90	18.30
Jordan	24.88	21.41
Juab	23.08	20.21
Kane	17.79	12.31
Millard	18.50	11.59
Morgan	21.20	19.22
Nebo	22.98	18.88
North Sanpete	18.86	10.63
North Summit	17.24	13.78
Park City	19.76	16.11
Piute	15.00	9.00
Rich	14.48	11.02
San Juan	16.37	9.92
Sevier	19.71	18.06
South Sanpete	19.70	11.17
South Summit	18.75	14.45
Tintic	10.79	9.30
Tooele	22.01	18.82
Uintah	22.44	15.10
Wasatch	21.08	16.62
Washington	21.61	18.90
Wayne	14.58	13.11
Weber	23.20	20.35
Salt Lake	21.40	13.60
Ogden	24.63	16.95
Provo	22.54	19.09
Logan	20.48	15.80
Murray	22.08	18.37
DISTRICT MEDIAN	**22.54**	**18.89**

Notes:
A "student" is any person enrolled in K-12 as of October 1, 2007

A "teacher" is any person assigned at the school as a Regular Classroom Teacher (excluding Preschool Teachers) or a Special Education Teacher.

An "adult" is any person assigned at the school as a "teacher," a Guidance Counselor, a Librarian & Media Specialist, a School Administrator, a School-Based Specialist, a Student Support Service person, or a Licensed Paraprofessional in the CACTUS database.

To see the ratios at the school level on which these median are based, please go to the online version of the Superintendent's Annual Report found at http://www.schools.utah.gov/finance/

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Appendix K

Comparison of Class Size and Staffing Ratios for Two Schools in Murray District

(2007-08 School Year)

This appendix shows how class size and staffing ratios vary by grade at two schools. As noted in the report, USOE reports a K-12 ratio for pupil-teacher and for pupil-adult. They do not provide grade level detail. We obtained the necessary data from the district office and the schools. The school principal allocated the time for each certified teacher and instructional aides among the grades.

		Grades						
		K	1	2	3	4	5	6
McMillan School (Non Title I School)*								
Average Class Size	Classroom Teachers (16.0 FTEs)	26	27	28	25	25	24	27
Pupil-Teacher Ratio	Additional Certified Teachers (3.6 FTEs)	18	23	23	20	22	18	26
Pupil-Adult Ratio	Additional Adults (7.2 FTEs)	10	16	17	15	17	15	18
Liberty School (Title 1)**								
Average Class Size	Classroom Teachers (16.1 FTEs)	19	18	24	27	22	22	25
Pupil-Teacher Ratio	Additional Certified Teachers (3.9 FTEs)	16	15	19	20	18	18	20
Pupil-Adult Ratio	Additional Adults (15.9 FTEs)	7	8	10	9	13	13	13

* McMillan School is an elementary school with 443 students and 16 FTE classroom teachers. There are 3.6 FTE certified teachers that work with multiple grades or small groups of students including a half-time teacher for the gifted/talented program, a full-time reading coordinator, a part-time guidance counselor and 1.5 special education teachers. Finally, there are 7.2 FTE instructional aides for computer, math, music, physical education, reading, and special education.

** Liberty School is a Title I elementary school with 376 students and 16.1 FTE classroom teachers. There are 3.9 FTE certified teachers, specifically a full-time reading coordinator and a special education teacher; and part-time gifted/talented teacher, speech pathologist, and Title I teachers. Furthermore, there are 15.9 FTE teaching assistants for computer, math, music, physical education, reading, math, and special education.

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Agency Response

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UTAH STATE OFFICE OF EDUCATION

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January 13, 2009

Mr. John Schaff
Auditor General
W315 State Capitol Complex
Salt Lake City, UT 84114

Dear Mr. Schaff:

Thank you for allowing a review of the exposure draft of *A Performance Audit of Elementary Schools Class Size* (Report No. 2009-04). The Utah State Office of Education (USOE) agrees with the recommendations of the audit. USOE is committed to improving our processes and has welcomed the audit as an opportunity to get objective feedback on our processes and products. The audit provided a very good review and can only improve the reporting process. USOE is working at this time to ensure changes are made to incorporate the audit recommendations:

- USOE will adopt the auditor's recommendation of omitting certain irregular class sizes. With the switch to Utrex for the 2009 and 2010 reports, USOE will accommodate as many of the irregular classes as possible.
- USOE will provide additional instruction and guidance to LEAs regarding use of the section number field, definitions of teacher and adult categories, and in reporting the variations in daily and yearly schedules.
- USOE recognizes the importance of auditing data submissions from LEAs and will, as far as funding allows, implement a data audit system.
- For the student-teacher ratio calculation, USOE has reviewed the data sources and use of median value and has corrected the calculation in the *Superintendent's Annual Report*, both in hard copy and on the web.
- USOE will provide cost and time resource estimates to develop a system that will be required for schools to report all adults including instructional aides for the student-adult ratio calculation.

Thank you again for this early review and for the professional manner of your audit staff in researching and recommending process improvements.

Sincerely,

Patti Harrington

Patti Harrington, Ed.D.
State Superintendent of Public Instruction

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