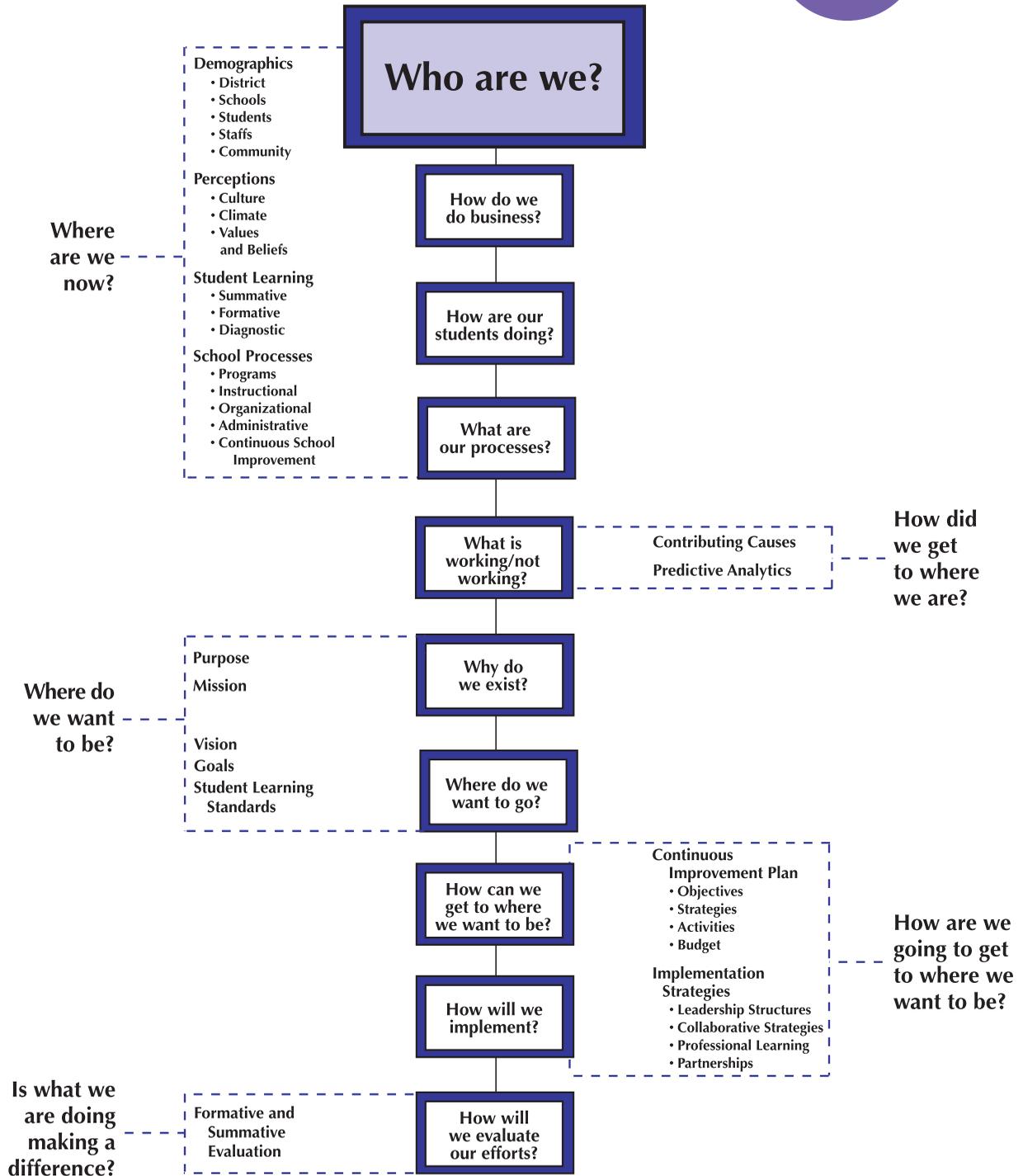


WHO WE ARE: DEMOGRAPHICS DATA



Demographic data are extremely important for continuous school improvement. Demographics establish the current context of the school and describe trends. Trends help staffs predict and plan for the future, as well as understand all other data with which they work in their continuous school improvement efforts. Comprehensive demographic data inform about the structure of the school—the system—as well as leadership.

Education for the Future

An excellent place to begin comprehensive data analysis is with the study of demographic data. Demographic data set the context for the school, describe those who are teaching and learning in the school, and help us understand all other numbers.

DEMOGRAPHIC DATA: WHAT THEY ARE AND WHY THEY ARE IMPORTANT TO CONTINUOUS SCHOOL IMPROVEMENT

Demographic data answer the continuous school improvement question, “Who are we?” Demographics establish the current context of the school and describe trends.

Demographic data answer the continuous school improvement question, *Who are we?* Demographics establish the current context of the school and describe trends. Trends help staff predict and plan for the future, as well as understand all other measures with which they work in their continuous school improvement efforts. Comprehensive demographic data inform staff about the structure of the school—the system—as well as leadership.

Demographics Describe Human Population Characteristics

Demographics are typically known as the statistical characteristics of human populations (such as age or ethnicity). In education, demographic data translate to items such as—

- ◆ number of students in the school,
- ◆ number of students with special needs,
- ◆ number of ESL students,
- ◆ age or grade of students in each cohort,
- ◆ socio-economical level of student population,
- ◆ teacher and student attendance,
- ◆ ethnicities/races/religious beliefs of the students and teachers in the school,
- ◆ number of graduates,

- ◆ number of students who drop out of school each year, and
- ◆ number of teachers by years of experience, and teaching assignments.

Through the study of demographic trends, we can predict with some accuracy such things as the number of students and the ethnic diversity with which the school can expect to work in the future. From an historical perspective, a school can use demographic data in its analyses of how well it has served its past and current populations and identify professional learning and changes needed to meet the needs of its future clients. It is very important for teachers to understand how the student population learns best, and to provide instruction to help all students learn. Most demographic factors can be mitigated with proper interventions.

Demographics Describe the System

Demographic data do so much more than just inform us of human characteristics. Demographics also tell us about the system: how the parts relate and fit together to create the whole. For example, how a school staff disciplines students, what teachers and administrators do when students are absent, and how students are placed in different programs create the system that generates the school's results. Class sizes, number of years of teacher experience by grade level, number of students in special education programs, by gender and ethnicity, and the subgroups of students enrolled in different programs, such as advanced placement, or honors, are all part of demographics that make up the system.

Demographic data are not static data. Demographic data show the philosophy of the school, through indicators of which and how students are disciplined, identified for special education, advanced placement, gifted programs, etc. When reviewing demographic data such as behavior and program enrollment, staff need to think about what they would like these data to look like, and what they need to do to get there.

All staff should know the school's demographic data. These contextual variables are critical and required for understanding all other information gathered about the school, and to know how to change processes.

WHAT DEMOGRAPHIC DATA ARE IMPORTANT FOR THE LEARNING ORGANIZATION

Schools have lots of demographic data. Most schools have student information systems that house their demographic data, gathered on an ongoing basis. Figure 3.1 shows typical demographic data that staffs should know about their school. This figure appears in Appendix B1 as a *Demographic Data Inventory* to assist your school in organizing its demographic data.

From an historical perspective, a school can use demographic data in its analyses of how well it has served its past and current populations and identify professional learning and changes needed to meet the needs of its future clients.

Demographic data show the philosophy of the school, through indicators of which and how students are disciplined, identified for special education, advanced placement, gifted programs, etc.

Figure 3.1
TYPICAL DEMOGRAPHIC DATA TO GATHER

Community (Descriptive)	Students, Over Time, and by Grade Level (Continued)
<ul style="list-style-type: none"> • Location and history • Economic base, population trends, and community resources (<i>www.census.gov</i> is a great resource for getting information about the community, as is your local chamber of commerce) • Community involvement • Business partnership 	<ul style="list-style-type: none"> • Special Education by disability, gender, ethnicity, language fluency, free/reduced lunch • Attendance/tardies • Mobility (where students go/come from) • Retention rates by gender, ethnicity, language fluency, free/reduced lunch • Dropout rates by gender, ethnicity, free/reduced lunch, migrant, and special education (where students go/what they do)
<p>School District (Descriptive)</p>	
<ul style="list-style-type: none"> • Description and history • Number of schools, administrators, students and teachers over time, and by grade level 	<ul style="list-style-type: none"> • Number of students leaving middle school overall for grade, by gender, ethnicity, language fluency, free/reduced lunch • Extracurricular activity participation/clubs/service learning by gender, ethnicity, language fluency, free/reduced lunch
<p>School (Descriptive)</p>	
<ul style="list-style-type: none"> • Description and history, attendance area, location • Type of school, e.g., magnet, alternative, charter, private, private management • Number of administrators, students and teachers over time, and by grade level • Number of students electing to come to the school from out of the attendance area • Grants and awards received • Title I/Schoolwide • Safety/crime data • State designation as a dangerous school • Class sizes • Extracurricular activities • After-school programs/summer school • Tutoring/peer mentoring • Community support-services coordinated • Counseling opportunities • Facilities: equipped for networked computers and handicapped • Facilities: age, capacity, maintenance • Availability of supplies and necessities • Uniqueness and strengths 	<ul style="list-style-type: none"> • Number and types of participants in programs, such as AP, IB, Honors, Upward Bound, Gear-up, college-prep, vocational • Number and types of participants in any programs • Number of home schoolers associated with school • Number of students electing to come to the school from out-of-attendance area • Number of bus riders • Student employment • Discipline indicators (e.g., suspensions, referrals, types of incidences, number of students carrying weapons on school property, who, what, when, where) • Number of drugs on school property (offered, sold, or given drugs) • Graduation rates by gender, ethnicity, language proficiency, free/reduced lunch, migrant, and special education (where students go/what they do) • Dropout rates, by gender, ethnicity, language proficiency, free/reduced lunch, migrant, and special education (where students go/what they do/how many come back to finish) • Number of students concurrently enrolled in college courses
<p>Students, Over Time, and by Grade Level</p>	
<ul style="list-style-type: none"> • Living situation/family structure/family size/homeless • Preschool/Head Start/Even Start • Preschool attendance • Gender of students • Race/ethnicity, numbers and percentages • Free/reduced lunch, numbers and percentages • Language fluency by language • Migrant/immigrants, by country, home languages 	<ul style="list-style-type: none"> • Number of students meeting college course entrance requirements, by gender, ethnicity, language fluency, free/reduced lunch • Number of scholarships, by gender, ethnicity, language fluency, free/reduced lunch • Number of students completing GEDs • Adult education program • Number and percentage of students going on to college; postgraduate training; and/or employment • Grade-point average in college • Number of graduates enrolled in college remedial classes

Figure 3.1 (Continued)
TYPICAL DEMOGRAPHIC DATA TO GATHER

Staff, Over Time
<ul style="list-style-type: none"> • Number of teachers, administrators, instructional specialists, support staff by assignments • Grade/subjects teachers are teaching • Years of experience, by grade level and/or role, in this school/in teaching • Ethnicity, gender, languages spoken • Retirement projections • Types of certifications/licenses/teacher qualifications/ percentage of time teaching in certified area(s) • National Board for Professional Teaching Standards (NBPTS) teachers • Degrees • Educational training of paraprofessionals • Teacher-student ratios by grade level • Teacher turnover rates • Attendance rates • Teacher involvement in extracurricular activities, program participation • Number of teachers receiving high-quality professional development that impact classroom performance
Parents
<ul style="list-style-type: none"> • Educational levels, home language, employment, socioeconomic status • Involvement with their child's learning • Involvement in school activities • Incarceration
Other Demographic Data
This section is currently blank

SEEING THE SYSTEM AND LEADERSHIP IN DEMOGRAPHIC DATA

After reviewing the list of demographic data, consider this question: “What demographic data elements can change when leadership changes?”

If you really think about it, you might be surprised to know that demographic data that we often consider *givens*, actually change when the leader changes. What the changes show are philosophies of how the adults treat students and other adults, and how the students treat other students and adults. Items that most obviously show change when leaders change include, discipline, attendance, who is assigned to Special Education (by gender and ethnicity), who is allowed to be Gifted or placed in Advanced Placement classes, and dropout and graduation rates. These philosophies often come with the leader. A strong staff, through shared visioning and intentional programming, can create a philosophy that can outlast a leader. Study your demographic data to make sure the data are relaying the philosophy you want your school to show. If not, change it.

A strong staff, through shared visioning and intentional programming, can create a philosophy that can outlast a leader.

TELLING YOUR STORY BY RECORDING DEMOGRAPHIC INFORMATION IN A DATA PROFILE

School staff must organize, analyze, and use comprehensive data that include demographic data, for the continuous improvement of the whole school. Educators need to understand whom they are serving, and determine how well they are meeting the needs of the students they are serving. Staff need to see the interconnections of the data elements that lead to different results. A school data profile organizes and houses the school’s demographic, perceptions, student learning, and school processes data in an easy to access fashion.

A data profile systematically displays data from the general to the specific. To be most useful for staff review, we need to pick a point in time (census) to gather demographic data elements and then include at least three years of information to show a trend. Five years give an even better idea of how your school’s population is changing, and will assist with the prediction of how your population might change in the future. Make sure the point in time used to describe your demographics is both noted and typical of what your state or province uses, so all school reports can have the same information. Most states and provinces have a date in the fall and/or spring for official school census information.

A school data profile begins with comprehensive demographic data to describe the context of the school in chart and table formats. The beginning pages of an example demographic profile are shown in Figure 3.3. The complete data profile is shown in the Appendix F, Case Study. Use the case study to guide your creation of a data profile. (*Note: Using Data to Improve Student Learning in Elementary Schools; Middle Schools; High Schools; and School Districts* [Bernhardt, 2003, 2004, 2005, 2006], provide *graphing templates and examples on accompanying CDs for doing this work.*

A school data profile organizes and houses the school’s demographic, perceptions, student learning, and school processes data in an easy to access fashion.

A school data profile begins with comprehensive demographic data to describe the context of the school in chart and table formats.

Response to Intervention (RtI) and Continuous School Improvement (CSI): Using Data, Vision, and Leadership to Design, Implement, and Evaluate a Schoolwide Prevention System [Bernhardt and Hébert, 2011] shows another complete data profile.)

The data profile tells the story of the school. If you do not like the story of your school, you can change it.

The data profile tells the story of the school. If you do not like the story of your school, you can change it. You just have to know what it is. If you are not looking at all your data, you do not know the whole story of your school.

Figure 3.3
SOMEWHERE ELEMENTARY SCHOOL PROFILE

DEMOGRAPHICS

Somewhere Elementary is a kindergarten through grade five school located in Somewhere Valley. Somewhere Elementary School is part of the Somewhere Valley School District, which in 2012-13, served 13,225 students in 19 schools: 9 elementary (K-5), 2 K-8 schools, 3 middle (6-8), 2 comprehensive high (9-12), and 3 alternative schools. In 2003-04, the district served 13,935 students. This decrease (after a few years of increases) in overall district enrollment is shown in Figure F-1.



Look Fors: Increasing, steady, or decreasing enrollment.

Planning Implications: Is there a need to expand or decrease district/school facilities, services, and/or staff? Are enrollment changes congruent with community population changes?

Figure F-1

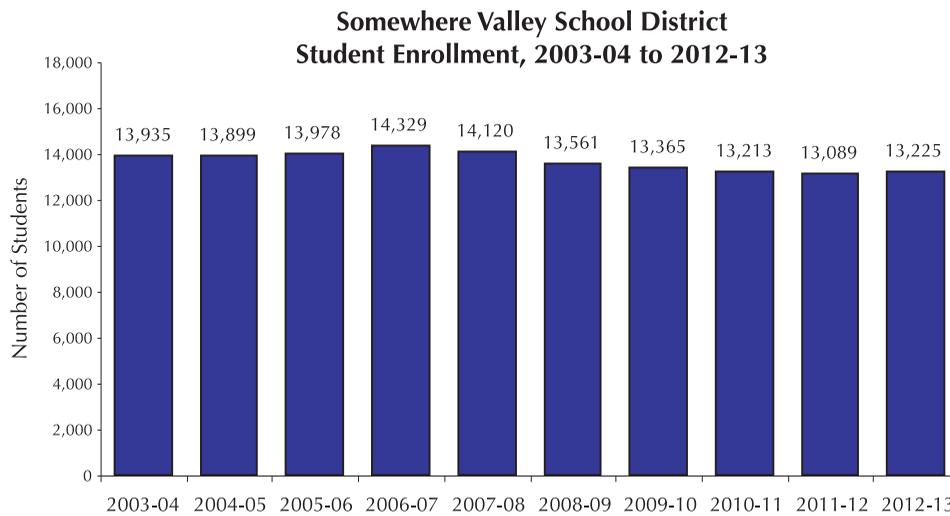


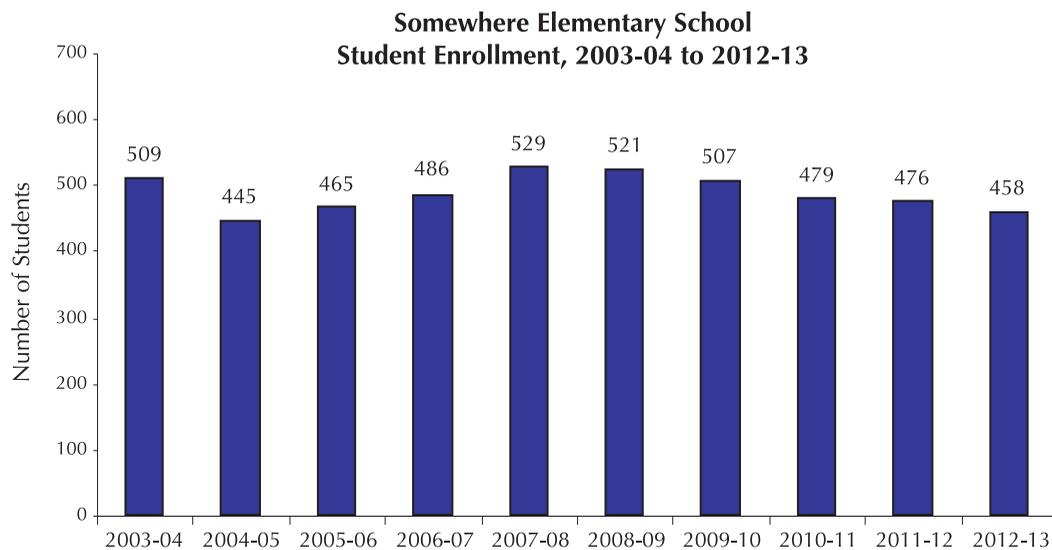
Figure 3.3
SOMEWHERE ELEMENTARY SCHOOL PROFILE (Continued)

Somewhere Elementary School served 458 students in 2012-13, down 18 students from the previous year (Figure F-2). The lowest enrollment was 445 students in 2004-05; the highest was 529 in 2007-08.



- Look Fors:** Increasing, steady, or decreasing enrollment.
- Planning Implications:** Is there a need to expand or decrease facilities, services, and/or staff? Why is enrollment increasing or decreasing?

Figure F-2



The district student enrollment is shown in Figure F-3 by percent ethnicity. Figure F-4 shows the enrollment by percent ethnicity for the elementary schools in Somewhere Valley School District (excluding Somewhere School). Figure F-5 shows enrollment by percent ethnicity for Somewhere Elementary. In 2012-13, 59% of the district population was Caucasian ($n=7,803$), and 26% was Hispanic ($n=3,439$). The remaining student population was made up of 6% Asian ($n=794$), 3.0% African-American ($n=397$), 3% Filipino ($n=397$), 0.5% Pacific Islander ($n=66$), 0.5% American Indian ($n=66$), and 2% Multiple/Other ($n=265$) ethnicities. In 2012-13, elementary schools (Figure F-4), excluding Somewhere School, had 53.3% of the student population Caucasian ($n=2,977$), 29.4% Hispanic/Latino ($n=1,1,641$), 6.4% Asian ($n=356$), 2.8% African-American ($n=154$), 3.1% Filipino ($n=174$), 0.6% Pacific Islander ($n=33$), 0.5% American Indian ($n=28$), and 4.0% Multiple/Other ($n=223$) ethnicities.

In 2012-13, 75.3% of Somewhere School students were Hispanic ($n=345$) and 15.9% of students were Caucasian ($n=72$). The remaining student population was made up of 0.9% Asian ($n=4$), 1.5% (African-American ($n=7$), 3.1% Filipino ($n=14$), 0.2% American Indian ($n=1$), and 3.3% Multiple/Other ($n=15$).



Look Fors:

Degree of diversity in the school/district population.

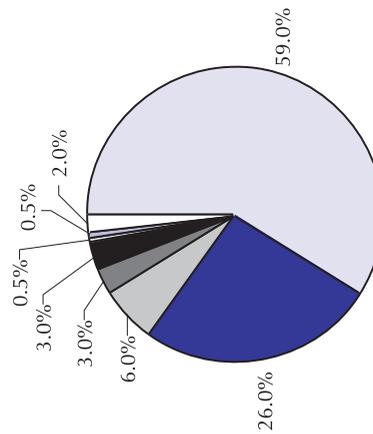
Planning Implications:

Are teachers prepared to meet the needs of students from all backgrounds? Are instructional materials geared for all students? Is there a need for diversity programs?

Figure 3.3
SOMEWHERE ELEMENTARY SCHOOL PROFILE (Continued)

Figure F-3

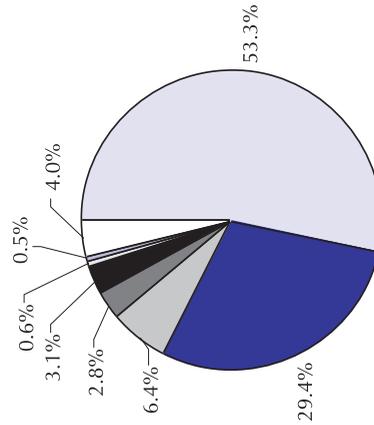
Somewhere Valley School District Student Enrollment by Percent Ethnicity 2012-13 (N=13,225)



- Caucasian (n=7,803)
- Hispanic/Latino (n=3,439)
- Asian (n=794)
- African-American (n=397)
- Filipino (n=66)
- Pacific Islander (n=66)
- American Indian (n=66)
- Multiple/Other (n=265)

Figure F-4

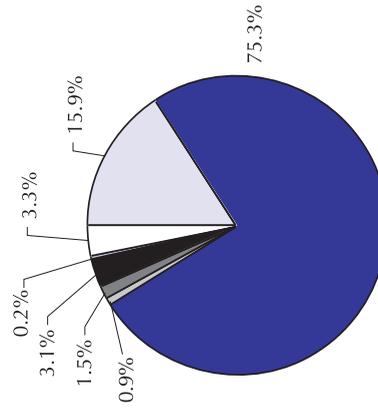
Somewhere Valley School District Elementary Student Enrollment by Percent Ethnicity, Without Somewhere Elementary 2012-13 (N=5,586)



- Caucasian (n=2,977)
- Hispanic/Latino (n=1,641)
- Asian (n=356)
- African-American (n=154)
- Filipino (n=174)
- Pacific Islander (n=33)
- American Indian (n=28)
- Multiple/Other (n=223)

Figure F-5

Somewhere Elementary School Student Enrollment by Percent Ethnicity 2012-13 (N=458)



- Caucasian (n=72)
- Hispanic/Latino (n=345)
- Asian (n=4)
- African-American (n=7)
- Filipino (n=14)
- American Indian (n=1)
- Multiple/Other (n=15)

ANALYZING DEMOGRAPHIC INFORMATION IN A DATA PROFILE

ANALYZING
DEMOGRAPHIC DATA

- Step 1. Independent review.** *After creating a data profile, have each member of your staff independently analyze the data for strengths, challenges, implications for the continuous school improvement plan, and identify other data they wished they had.*
- Step 2. Small group review.** *In small groups, have staff members share what they saw for strengths, challenges, implications for the continuous school improvement plan, and other data they wished they had, for each type of data, recording commonalities on chart paper.*
- Step 3. Large group consensus.** *Combine the small group results to get a comprehensive set of strengths, challenges, implications for the continuous school improvement plan, and other data they wished they had.*
- Step 4. Implication commonalities.** *Line up the consolidated implications for demographics, perceptions, student learning, and school processes.*
- Step 5. Aggregation of commonalities.** *Aggregate, or consider as a whole, those highlighted commonalities.*

We recommend pulling all your school’s data together before analyzing your demographic data. Chapter 7 and Appendix H, *Analyzing Data for Continuous School Improvement Planning*, guide you through the steps in the process. To summarize:

- Step 1. Independent Review.** After creating a data profile that includes each type of data, demographics, perceptions, student learning, and school processes, described in the following chapters, have each member of your staff independently analyze the data for strengths, challenges, implications for the continuous school improvement plan, and identify other data they wished they had. These should be the first ideas that come to mind, as opposed to reviewing the data and then making notes. The analysis will be much richer. (A template for documenting strengths, challenges, implications for the school improvement plan, and other data is included in Appendix H.) Note that each figure in the data profile has “Look Fors” and “Planning Implications” to help guide the analysis.
- Step 2. Small group review.** In small groups, have staff members share what they saw for strengths, challenges, implications for the continuous school improvement plan, and other data they wished they had, for each type of data, recording commonalities on chart paper.
- ◆ **Strengths** are positive elements one can see in the data. These are ideas for which the school wants to keep track, and keep doing. Strengths can be used as leverage for improving a challenge. An example strength: “This school has an excellent student teacher ratio.”
 - ◆ **Challenges** found in data imply something might need attention, is out of a school’s control, or a potential undesirable result. An example challenge: “The number of students living in poverty in this school has tripled in the past five years.”
 - ◆ **Implications for the continuous school improvement plan** are ideas that the reviewer jots down while reviewing the data. Implications are placeholders until all the data are analyzed. Implications most often are constructive responses to challenges. An example implication derived from the challenge example above might be: “Do all staff have the professional learning they need to meet the needs of the students who live in poverty?”

- ◆ **Other data we wished the school had.** When school staff review the school’s data, effectively, they always uncover other data they wish they had available. The examination of the data will highlight issues in data collection, storage, and reporting, as well. It is important to make note of these issues so data can be gathered appropriately. An example: “We need to do a more comprehensive job of identifying who, what, where, and when behavior issues take place at the school site.” Staff would need to clarify what data they need to gather, how each staff member will gather and report the data, and how and when they will review the data, and then do something about the results.

DEMOGRAPHIC DATA

1. What are Somewhere School’s demographic <i>strengths</i> and <i>challenges</i> ?	
<i>Strengths</i>	<i>Challenges</i>
2. What are some <i>implications</i> for the Somewhere continuous school improvement plan?	
3. Looking at the data presented, what other demographic data would you want to answer the question <i>Who are we?</i> for Somewhere Elementary School?	

- Step 3. Large group consensus.** Combine the small group results to get a comprehensive set of strengths, challenges, implications for the continuous school improvement plan, and other data they wished they had. This becomes a set of information with which everyone agrees.
- Step 4. Implication commonalities.** Line up the consolidated implications for demographics, perceptions, student learning, and school processes. Look across the implications and highlight the commonalities. Staff members will be amazed to see that there are many things which need to change in demographics, perceptions, and school processes if they want student learning increases.
- Step 5. Aggregation of commonalities.** Aggregate, or consider as a whole, those highlighted commonalities. Make a list of the items that must be addressed in the continuous school improvement plan, based on data. Those aggregated commonalities most often include professional learning for all staff, need for a vision, need for consistency in how students are treated (behavior), support and modeling for implementing learning standards and using data, strategies to welcome students to school, and so on.

Most schools have student information systems that gather and store demographic data daily.

The separation of results into different subgroups that make up the population is called “disaggregation.”

Disaggregation helps us find student groups that are not responding to our processes in the way others are—enabling us to understand why and to search for new processes so all students do learn.

Appendix G shows what we saw in the case study data, and how we got to aggregated implications for the continuous school improvement plan. The implication commonalities provide powerful information for a school’s continuous school improvement efforts.

Dynamic Demographic Data

The data profile uses mostly static—based on a point in time—data to provide a method to help staff review demographic data in the context of other data. Most schools have student information systems that gather and store demographic data daily. Within the demographic data profile, there are some data, such as attendance and behavior, that require staff to look across months and weeks to understand them. It becomes overwhelming to try to display these data without appropriate tools; however, with business intelligence systems to produce and disseminate graphs, tables, and reports, and a purpose for looking at dynamic data, one can truly understand how and when things happen, and relationships of variables. This will be discussed more in Chapter 8.

DISAGGREGATION

The separation of results into different subgroups that make up the population is called “disaggregation.” Demographics play an important role in the disaggregation of data. Demographic subgroupings of achievement or perceptions measures allow us to isolate variations among different student groups to understand if all students are achieving or experiencing school in the same way, and to know if there is something the adults need to learn about particular student groups to better meet their needs.

Disaggregation helps us understand if we are truly meeting the purpose and mission of our school. If we are acting on the belief *all* students can achieve, any breakdown of subgroups of students should show few differences. Disaggregation helps us find student groups that are not responding to our processes in the way others are—enabling us to understand why and to search for new processes so *all* students do learn.

Disaggregation provides powerful information in the analysis of school variables, test scores, and questionnaire results. Schools need to disaggregate their important student achievement, perceptions, and school process data by demographic variables that impact student learning to understand all aspects of the population of the school and look for problems and contributing causes.

It is best to disaggregate for few rather than many subpopulations at a time. When too many subpopulations are used (e.g., gender, ethnicity, *and* English as a Second Language), group sizes may become so small that individuals can easily be identified, and the reliability of the results diminish. In fact, most states use 40 as a minimal group size they believe will lead to reliable results. Please note that this minimal group size is for looking at the data from the outside in. When you are looking at your data and reporting the data in-house, you want to be able to identify students for individualized planning, so the 40 rule will not apply.

When too many subpopulations are used (e.g., gender, ethnicity, AND English as a Second Language), group sizes may become so small that individuals can easily be identified, and the reliability of the results diminish.

HOW MUCH TIME DOES IT TAKE?

Most schools already gather demographic data in their student information systems. Organizing the data into a school data profile might take one person two or three days, up to two to three weeks, depending upon how much graphing needs to be done. With an automated tool like the *School Portfolio Application* offered through *Education for the Future* (See <http://eff.csuchico.edu>), the data are uploaded and the data profile, complete with look fors and planning implications, is created in minutes.

REFLECTION QUESTIONS

1. What are demographic data?
2. Why are demographic data important to continuous school improvement?
3. Are your demographic data reliable; if not, what needs to be fixed?
4. Do you have access to the data in a relatively simple manner? Do you have the technology and the technical support to easily generate typical comprehensive reports? At what frequency?
5. Why is a school data profile important?
6. Who should know the demographic data of a school?
7. What does it mean to disaggregate data, and why is it important to do?

APPLICATION OPPORTUNITIES

1. Use the *Demographic Data Inventory* (Appendix B1) to organize your demographic data.
2. Graph your demographic data into a data profile so staff can analyze and use the results. Use Appendix F as an example.
3. See Chapter 7 for more on engaging staff in analyzing demographic data, along with perceptions, student learning, and school processes data.