DOCUMENT RESUME

ED 312 275 TM 014 009

AUTHOR Mitchell, Stephanie; Hansen, Joe B.
TITLE The Use of Evaluative Data for Instructional Planning and Decision Making in the Portland Public Schools. Year Two Report: September 1987-December 1988. 1987-88 Research Report.
INSTITUTION Portland Public Schools, OR. Research and Evaluation Dept.
PUB DATE May 89
NOTE 59p.; For year one report, see ED 291 778.
PUB TYPE Reports - Research/Technical (143) -- Tests/Evaluation Instruments (160)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS *Administrator Attitudes; Case Studies; *Decision Making; Educational Assessment; *Educational Planning; Elementary Schools; Elementary Secondary Education; *Evaluation Utilization; *Instructional Development; Intermediate Grades; Middle Schools; Principals; School Surveys; Teacher Attitudes; *Test Use
IDENTIFIERS *Portland School District OR

ABSTRACT

In July 1986, the Portland (Oregon) Public Schools began a 3-year study of the use of evaluative data in instructional planning and decision making in schools. This report summarizes the second year of the investigation, in which case studies of evaluative data use were conducted in one elementary school (kindergarten through grade 5) and one middle school (grades 6 through 8) in the Portland district. In the fall of 1987, the enrollment of the elementary school was 450 students and that of the middle school was 550 students. The case studies collected and analyzed ethnographic data on the use of formal tests and informal classroom assessments. Interviews and surveys with 239 teachers and 35 principals provided information on the wide range of evaluative data sources used in instructional planning and decision making. Study findings provide the basis for a Teacher Support Guide and technical support materials on the effective use of assessment information being developed in 1988-89. More evidence of data use was found than anticipated. A key factor in the use of evaluative data was the principal's attitude about and comfort with the data. Questions remain about whether the behaviors of principals and teachers in schools with high use of data are observably different from those with lower data use in schools. Further study of these questions will enhance the development of the assessment guide. Eight tables and three figures give study findings. Appendices A, B, and C present the case study survey, a summary of frequency tables, and the case study interview protocol, respectively. (SLD)

1987-88
RESEARCH
REPORT

THE USE OF EVALUATIVE DATA FOR INSTRUCTIONAL PLANNING AND DECISION MAKING

IN THE PORTLAND PUBLIC SCHOOLS

Year Two Report: September 1987 - December 1988

Research and Evaluation Dept.
Portland Public Schools
Portland, Oregon
Walter E. Hathaway, Director

Stephanie Mitchell
Joe B. Hansen

May 1989

THE USE OF EVALUATIVE DATA

FOR

INSTRUCTIONAL PLANNING AND DECISION MAKING

IN THE

PORTLAND PUBLIC SCHOOLS

Year Two Report: September 1987 - December 1988

Research, Evaluation and Testing Department
Portland Public Schools
Portland, Oregon
Walter E. Hathaway, Director

by

Stephanie Mitchell
Portland Public Schools

and

Joe B. Hansen
Colorado Springs Public Schools

May, 1989

ADMINISTRATIVE SUMMARY

THE USE OF EVALUATIVE DATA FOR INSTRUCTIONAL PLANNING AND DECISION MAKING

Year Two Report: September 1987 - December 1988

The Portland Public Schools Research and Evaluation Department study of the use of evaluative data in instructional planning and decision making in schools began in 1986. The three year research and development effort is an outgrowth of the department's commitment to improving the use of evaluative data in the decision making process. This report summarizes the second year of the investigation in which case studies of evaluative data use were conducted in two Portland schools.

The research assumes that the goal of testing and assessment is to inform decision making. Districtwide testing and classroom assessments help educators extend successful basic skills instruction and identify areas where improvements may be needed. Research and practice show that test scores are only one aid in helping parents, teachers, and students make decisions about student learning. Perhaps the most important forms of assessment for instructional planning and decision making are those methods employed by teachers in the classroom.

During 1987-88, case study research was conducted in two Portland schools, one elementary school and one middle school. The purpose of the case study was 1) to provide a comprehensive description of data use in the schools studied, 2) to provide validation data for the previous evaluation use studies, and 3) to test and extend the hypothetical decision framework and taxonomy. The case study method allowed us to explore the relationship between test score results and classroom assessment strategies to improve learning.

The case studies collected and analyzed ethnographic data on the use of formal tests and informal classroom assessments. Interviews and surveys with teachers and principals provided information on the wide range of evaluative data sources used in instructional planning and decision making. Based on the findings of the study, a Teacher's Assessment Guide and technical support materials on the effective use of assessment information are being developed during 1988-89.

Several impressions emerged from the case study which are as much a product of the researchers' experience as of the data. The following impressions and recommendations are offered in no particular order of importance:

1. There are principals and teachers who show a commitment to assessment and are effective data users. These educators understand the value of the data available to them and make good use of it in their daily routines. We found more evidence of data use than anticipated, even among the high use case study schools.

2. A key factor in whether a school is a high data use school or not is the principal's attitude toward and comfort with data. Principals set the tone and create the ethos for data use by the way they model the use of data in the instructional planning and decision making process.

3. Questions remain whether the behaviors of principals and teachers in high data use schools are observably different from those in lower data use schools. How different are they? In what ways do they differ? The answer to these questions would help us understand how data users develop and how the central office support system might better address their needs. Further study is needed on these issues.

4. High student transiency affected, possibly in a restrictive fashion, the flexibility of data use among teachers in the case study schools. While the full effects of transiency on data use are not well known, we speculate that decision making is more restricted to the short-term, placing a greater emphasis on classroom and criterion referenced forms of assessment.

5. The Research and Evaluation Department should consider developing a unified report of Portland Achievement Levels Tests score results, science testing, and direct writing assessments.

6. The Research and Evaluation Department should develop an Assessment Guide for teachers and principals which might include information on (a) the role of testing and assessment, (b) development of effective classroom assessments, (c) preparation of students for testing, (d) communication with parents about assessment, and (e) use and interpretation of Portland Achievement Levels Tests (PALT). Training and dissemination of the Assessment Guide should also be implemented by the Department.

7. The Research and Evaluation Department should revise the Test Coordinator's Manual. The manual might include information on (a) philosophy of testing in Portland Public Schools, (b) interpretation and use of PALT test results, (c) descriptions of the PALT testing program, (d) logistics of testing, (e) facsimiles of PALT test reports, and other information applicable to Test Coordinators.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

INTRODUCTION AND BACKGROUND

The Portland Public Schools Research and Evaluation Department began a multi-year, districtwide study of the uses of evaluative data in the instructional decision making and planning process in July 1986. The purpose of the study is to provide the department with information to guide the development of improved data collection, reporting, and information delivery systems. These systems would be targeted to more effectively meet the decision making needs of teachers, principals, parents, and administrators.

This effort was founded on the belief that the primary purpose of evaluation is to inform the instructional decision making and planning process. Assessment and evaluation should result in better informed decisions regarding the education of the children in our schools. This in turn should result in improved achievement, more efficient use of school resources, and greater satisfaction on the part of students, parents, teachers, principals and central office decision makers.

One of the basic assumptions of this project is that training teachers and principals in more effective and appropriate use of achievement data will result in higher student achievement. However, to ascertain the training needs of teachers and administrators in the use of such data, we felt it necessary to conduct a thorough investigation of how data of all types are used in the instructional decision making and planning process in Portland schools.

This report summarizes research for the second year of the decision making study. The report is intended for use by the Director of Research and Evaluation and Evaluation Department staff as an aid in improving the structure and operation of the testing program and developing improved technical support for assessment in the Portland Public Schools. It is expected to also be of interest to district administrators, school board members, and researchers interested in evaluation use and its impact on educational practice.

CONCEPTUAL MODEL

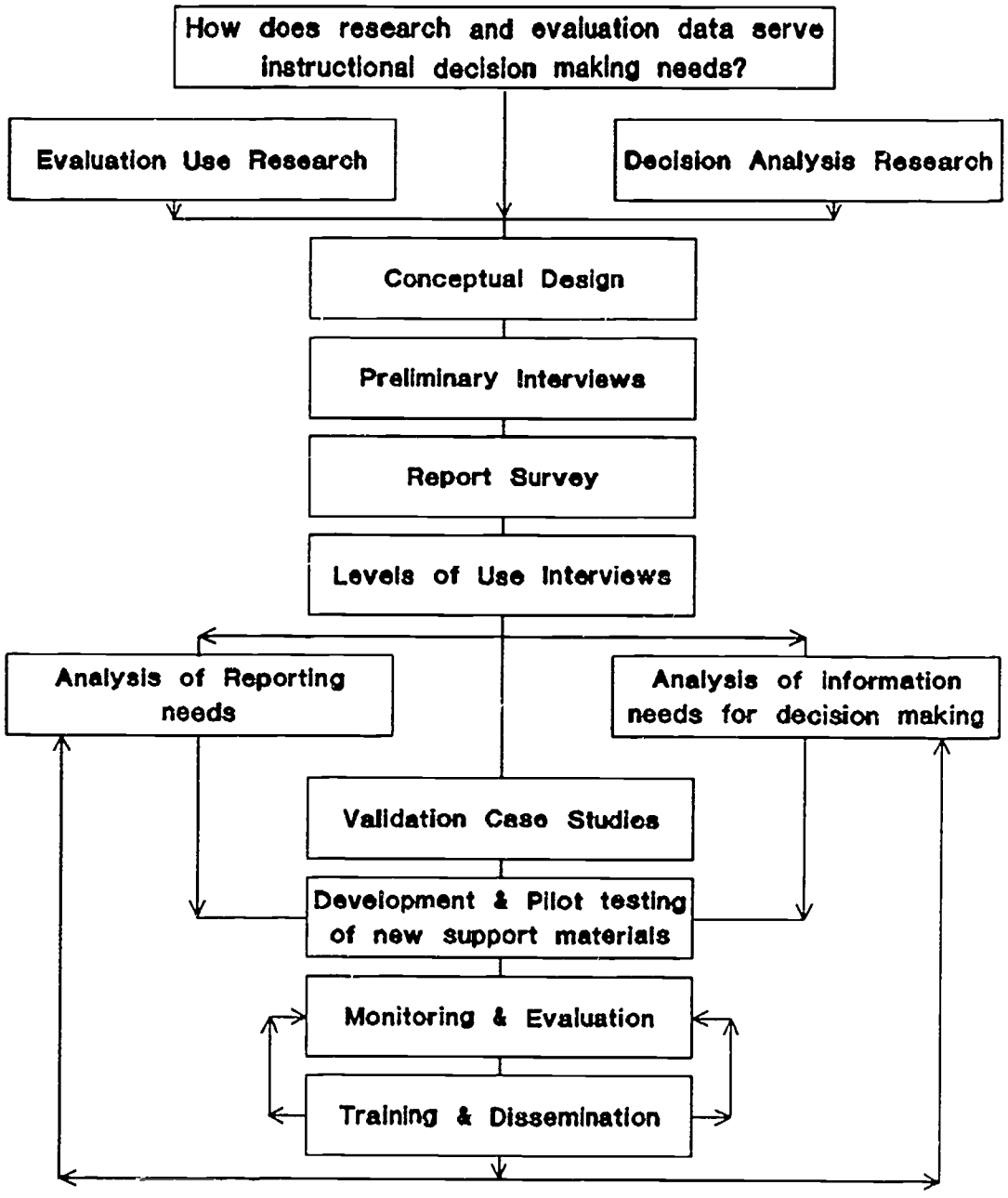
The study is based on a conceptual approach that combines decision making research with evaluation use research. Through a series of smaller studies, it seeks information to guide development of support services and materials that will result in improved use of evaluative data. The conceptual model is illustrated in Figure 1.

Evaluative Data

In earlier studies, we discussed evaluative data in terms of Portland Achievement Levels Tests (PALT). In contrast for the case study research, we expanded the definition of evaluative data to include: (1) PALT and other standardized tests, (2) teacher developed tests, (3) text-embedded tests, (4) performance assessments, (5) oral questioning strategies, (6) group assessment methods, (7) other teacher opinions, (8) classroom assignments, (9) student peer assessments, and (10) student self assessments.

Figure 1.

Conceptual Approach for Study of Use of Evaluative Data in Instructional Planning and Decision Making



Previous Studies

Study One

A preliminary study conducted during the 1985-86 school year obtained data to guide the research and development process. The purpose of the preliminary study was to test and validate the functional utility of a hypothesized decision making structure. Figure 2.a shows the hypothetical decision making framework in which levels of decisions are associated with decision makers and their decision making time-frame. In the framework, decisions and the types of data associated with them can be related to the decision makers at each level within the school district organization.

Figure 2.a Hypothetical Decision Framework

Planning Horizon	Student	Instr. Group	Class	Grade	School	Cluster	District
SHORT TERM (Immediate thru grading period)	Teacher	Teacher	Teacher	Teacher Principal	Principal	DOI	Superintendent Deputy Dept. Head
MID TERM (Grading period to end of year)	Teacher	Teacher	Teacher Principal	Teacher Principal	Teacher Principal Counselor	DOI	Board Superintendent Cabinet
LONG TERM (Next year and beyond)	Teacher				Principal Vice Prin. Counselor	DOI Principal	Board Superintendent Cabinet

In the preliminary study, fourteen in-depth interviews were conducted with school principals, teachers, administrators and instructional specialists on their use of PALT test reports and other data. The results confirmed the usefulness of the hypothesized framework and revealed varied uses for evaluative data in instructional planning and decision making. They also led to the development of a taxonomy of decision types based on the hypothesized decision structure. The taxonomy is shown in Figure 2.b on the following page.

Based on the encouraging results obtained in the preliminary study, further studies were planned to explore the extent of use of evaluative data, especially the PALT data, and examine the relationships between data use and instructional planning and decision making.

Figure 2.b

TAXONOMY OF DECISION TYPES AND EXAMPLES OF RELEVANT DATA

DECISIONS	RELEVANT DATA
SHORT TERM	
a. Diagnose individual strengths and weaknesses	. Standardized NRT, individual percentile
b. Who needs remedial help	. Standardized NRT, individual scale scores
c. What to teach (in class)	. Standardized NRT, individual standard scores (P)
d. What to reteach	. IRT scale score, individual (e.g. Rasch = RIT)
e. What to emphasize	. Standardized NRT, individual sub-scale score
f. What to skip	. CRT, individual mastery score
g. How to teach	. Standardized NRT, group percentile
h. How to assign grades	. Standardized NRT, mean scale scores
i. Evaluate instructional programs	. Standardized NRT, mean standard score (P)
j. Report to parents	. IRT scale score, group mean (RIT)
k. Student placement (grouping)	. IRT scale score by goal, group mean (RIT)
l. Diagnose group strengths and weaknesses	. Standard score by goal-group mean (P)
	. Standardized deviation score-group (DEV)
MID TERM	. Standardized growth (Grow)
a. Student selection (program)	. Standardized residual (R)
b. Student referral (special ed.)	. Attendance (frequency count)
c. Where to allocate resources	. Behavioral observation
d. Student suspension/explusion	. Student attitude survey
e. Who receives a standard diploma	. Teacher made test of skills or knowledge
f. Who receives a modified diploma	. Student enrollment data
g. Who to advance/promote/retain	. Student grades by class
	. Grade point average (individual)
LONG TERM	. Grade point average (class or grade group)
a. What courses to offer	. Graduation standard status
b. How many sections of a course to offer	
c. How many teachers to hire	
d. What text series to adopt	
e. How to assign teachers to courses	
f. How to balance the curriculum	
g. What new programs to implement	
h. What old programs to retain or discontinue	
i. How to reduce dropouts	

Study Two

A major planning phase was conducted in June and July 1986 to develop the schedules, refine the study questions, establish samples, and develop the interview protocols and survey questionnaires. This phase resulted in a two-year plan that incorporated survey research with a study of the Levels of Use of evaluative data, followed by a set of case studies.

In 1986-87, the following two-part Evaluation Use study on PALT was conducted:

1.) Fall 1986 - a telephone and mail survey of how parents, principals and teachers use Research, Evaluation and Testing Department reports and services.

2.) Winter 1987 - a study employing the **Level of Use** model (Loucks, Newlove, & Hall, 1975; Pechman and King, 1986), to ascertain the existing level of use of **evaluative data** in the schools. Schools were arrayed in terms of the levels of evaluation use revealed by the LoU model. Correlational analyses were conducted to examine the relationship between LoU and school achievement.

Parent, Teacher, Principal Surveys

In November 1986, 273 parents of students in grades 3-8 were surveyed on their use of student achievement test results. Surveys were distributed at the fall Parent-Teacher Conferences. Results indicated that parents were pleased with the districtwide test score information they were receiving, but would like a report of their child's spring test scores and graphic, as well as numerical displays of test scores. In response, the Department produced a spring Parent-Teacher Conference Report which is mailed to parents.

Also in November 1986, survey questionnaires were sent principals and teachers in a random sample of 40 elementary schools. This survey requested information about the use and usefulness of the Portland Achievement Levels Tests (PALT) reporting system. Surveys were completed by 274 respondents; 35 principals and 239 teachers reported on their use of evaluative data.

Levels of Use Interviews

Levels of Use (LoU) interviews were conducted in the random sample of 45 elementary and middle schools which did not receive the above mentioned survey. Interview subjects included the principal and two randomly selected teachers. In addition, interviews were conducted with approximately a third of the district test coordinators and all Directors of Instruction. Interviews were conducted during the fall of 1986 by trained, certified LoU interviewers in order to determine a districtwide baseline level of use of PALT test reports. The Levels of Use model identifies eight levels of use of an innovation: LoU I-nonuse, LoU II-orientation, LoU III-preparation, LoU IVa-mechanical use, LoU IVb-routine, LoU V-refinement, LoU VI-integration, and LoU VII-renewal. One hundred twenty-six LoU interviews were conducted with teachers (n=82), principals (n=36), and Directors of Instruction (n=8) in the district.

We found that 32% of principals and teachers used PALT test reports in a nonroutinal manner (mechanical use) and 40% used PALT test reports in a stable, comfortable manner (routine use). Thirteen percent of the interviewees varied their use of PALT test reports to increase the impact on students (refinement). Eight percent combined their evaluation use with other colleagues to achieve a more collective impact on students (integration). Seven percent of the sample were found to be at nonuse, orientation, or preparation levels for using PALT test reports. Recommendations from the LOU interviews were used to guide improvements in the PALT reporting system. The interview transcripts also provided a rich source of data for further review and analysis as the case study data were interpreted.

CASE STUDY PLAN AND METHODOLOGY

Purpose of the Study

A multi-site case study was conducted in 1987-88. The purpose of the case study was to provide a comprehensive description of the full range of data use in the schools studied, to provide validation data for the survey and Levels of Use studies, and to test and extend the hypothetical decision framework and taxonomy. The case study had four objectives:

1. To obtain an in-depth understanding of the instructional decision making process at the classroom and school level.

2. To develop a comprehensive description of the planning and decision making process including the kinds of data used and how they are used in this process.

3. To validate the Levels of Use findings.

4. To test the validity of and expand the hypothetical decision framework and taxonomy.

As originally planned, the case study would focus on two low and two high Levels of Use schools. One low and one high LoU school would be a K-5 elementary and one each would be a grade 6-8 middle school. Unfortunately, we had difficulty obtaining the cooperation of the principals and teachers in the low use schools. Thus, we were left with one elementary and one middle school, both of which were high data use schools. They were also both schools with low overall achievement scores as measured by districtwide tests. Staff scheduling problems and resource factors led us to focus more of our efforts on the elementary school than the middle school. Reporting of the case study was further hampered by one author's departure from Portland in July 1988 to take a position with the Colorado Springs School District.

Case Study Plan

Research Protocol

A research protocol was developed to structure the case study and place boundaries around the data collection. The protocol included research questions, methods, instruments, procedures for data collection and analysis, timeline, and other relevant background information (Yin, 1986; Miles & Huberman, 1985). The case study was based on the following guidelines.

1. Research questions should be narrow enough to provide clear guidance, but broad enough to not be trivial or result in too restrictive a view of the phenomenon studied.

2. Methods should be qualitative, varied, and redundant enough for internal validity.

3. Instrumentation should be adequate to provide necessary structure and focus, but not so much as to restrict the investigation from its primary purpose, which is discovery.

The case study included three basic types of data collection activities: interviews, survey questionnaires, and observations in classrooms, at meetings, and other events. Where appropriate and useful, documents and forms used by teachers and principals for data collection, reporting, and interpretation were also collected. The data collection methods were intended to help us develop answers to the specific research questions shown below.

Research Questions and Methods

Research Questions	Data Collection Methods
1. How is evaluative data used for instructional planning/decision making in schools?	
a. How is data used currently by principals, teachers and others?	a. Principal and teacher survey, interviews, classroom observations, staff meetings, documents.
b. What decisions do they make using data routinely?	b. Validate and revise the hypothetical decision framework by interaction with decision makers.
c. How can the information be used for future planning?	c. Interviews, observation of staff planning meetings.
2. How can measurement and evaluation best serve decision making needs of principals, teachers, parents, and administrators?	
a. Who makes what decisions and in what timeframe?	a. Validate and revise the hypothetical decision framework by interaction with decision makers.
b. What kind of data are used?	b. Observation, interviews and survey.

The case studies examined the uses of evaluative data in instructional planning and decision making in a variety of circumstances. Survey data were analyzed for both pooled and between school effects. As field notes were compiled, interpreted, and analyzed the LoU interview transcripts were re-examined to see what additional data could be derived that would assist in understanding the relationships between decision making and data use.

The Case Study Schools

One elementary school (K-5) and one middle school (6-8) were selected and agreed to participate in the case study. Both schools had been identified as high data use schools by the LoU study the previous year. The elementary school received an LoU rating of IV-B, indicating that it was at the "refinement" level of use of PALT data. The middle school was identified as being at LoU V, "integration" level of use of PALT. The Levels of Use manual (Loucks, Newlove, & Hall, 1975) defines these two stages in the following manner.

Level IVB - Refinement: State in which the user varies the use of the innovation to increase the impact on clients within immediate sphere of influence. Variations are based on knowledge of both short-term and long-term consequences for clients.

Level V - Integration: State in which the user is combining own efforts to use the innovation with related activities of colleagues to achieve a collective impact on clients within their common sphere of influence.

The Elementary School

The selected elementary school is located in a predominantly white, lower socioeconomic area of Portland. It reported an enrollment of 450 students in kindergarten through grade five during the fall of 1987. The building which was constructed in the early 1950's, contains 25 classrooms. The principal, a white male Ph.D. in his mid-fifties, was transferred to the school in the fall of 1986. His staff consisted of twenty-six certificated teachers, five instructional aides, two clerical/secretarial staff, and seven other classified employees for a total of forty employees. During the 1987-88 school year, the pupil-teacher ratio at the school was 22:1, while the pupil-instructional staff ratio was 18:1. The stability index, the percentage of students enrolled during the opening days of school in the fall who are still enrolled in the same school in June, was .662; the average stability index for Portland elementary/middle schools in 1987-88 was .788. Special programs in which students participated were Chapter 1 reading (37% of the students enrolled) and math (30%), federal lunch (78%), low income allocation (42%), talented and gifted (4%), and special education (14%). The school does not have an ESL/bilingual program. Achievement levels in reading, language usage, and mathematics are somewhat below the district averages for the three grade levels tested by PALT (grades 3-5).

The Middle School

The selected middle school is located in a racially mixed, lower socioeconomic area of Portland. Enrollment in the school was 550 students in grades six through eight in the fall of 1987. This middle school had a staff of one assistant principal, thirty certificated teachers, six instructional aides, four other certificated staff, three secretarial, and eight other classified staff for a total of fifty-two employees. The principal, a white male Ph.D. in his early forties, had been principal at the school for four years. The building, originally constructed in 1925, was renovated in the early 1980's. The pupil-teacher ratio was 22:1, while the pupil-instructional staff ratio was 21:1. The middle school's stability index was .651; the average stability index for Portland elementary/middle schools was .788 in 1987-88. Student participation in special programs at the school included Chapter 1 reading (27% of the students enrolled) and math (27%), federal lunch (52%), low income allocation (44%), talented and gifted (8%), ESL/bilingual (7%), special education (8%), and alternative programs (3%). Achievement levels were slightly below the district averages across grades 6-8 for reading and math, and right at or slightly above the district average for language at all grades.

CASE STUDY SURVEY

In April 1988, survey questionnaires were administered to the principals and teachers in the two selected case study schools. Questionnaires were completed by 2 principals, 24 teachers in the middle school, and 13 teachers in the elementary school. The three page questionnaire contained both structured response and open-ended questions (see Appendix A). The survey asked questions on the type and frequency of use of data sources and test reports; the types of test scores used by the types of decisions made; type of test score groupings used; needs for other types of data and services; and demographic data on the respondents, e.g. level of education, number of years experience.

Survey Results: Pooled Data

Survey data were analyzed using SPSS Crosstabs to determine what categories of information were used for instructional decision making, which PALT reports were used and for what purposes, and how test scores were used by the teachers and principals.

Preferred Data Sources

Table 1 shows the pooled results for both schools on the most frequently used sources of data for instructional planning when no specific purpose is stated. The results show a strong preference for classroom assessment strategies. Performance assessment/teacher observation and judgment ranks first, with oral questioning strategies, teacher-made tests, and assignments in second, third and fourth place respectively. The PALT test data ranked eighth overall with 43% of the respondents indicating that they used it often or always. Opinions of other teachers ranked seventh, with 44% indicating they used it either often or always. These results extended and supported results of the earlier survey in which teacher-made tests ranked first among teachers as the most often used source of information. However in that earlier survey, performance assessment and oral questioning strategies were not included as response options.

Preferred Report Types

Survey respondents were asked to indicate the extent to which they used PALT test reports from two different categories: Student Achievement reports - those designed specifically for use by the classroom teacher, and Administrative reports - those designed for use by principals and central office administrators. The results for this question are shown in Table 2.

The pooling of survey data from the elementary and middle schools allowed some interesting comparisons in the stated use of the PALT test reports. Table 2 indicates that the Middle School Feeder Reports (Alpha and Rank) are little used, when actually this is an anomaly resulting from the pooled data. Middle school feeder reports are not issued to elementary schools. Also of interest is the fact that several reports which are produced in quantities sufficient just for the principal seem to be receiving wider distribution to the teachers. Among these reports are the Fall-Spring Match Report, Preliminary and Final Principals Reports, Labels for Student Cum Folders, and Middle School Feeder Reports.

Table 1. Most Frequently Used Sources of Data (pooled, N=39)

DATA SOURCES USED IN INSTRUCTIONAL PLANNING	Always/ Often	Some-times	Seldom/ Never
	(Percent of Respondents Answering)		
Performance Assessment	93.9	6.1	0.0
Oral Questioning	87.6	6.3	6.3
Teacher-Made Tests	74.2	17.1	8.6
Class Assignments	65.6	15.6	18.8
Textbook Tests	47.0	29.4	23.5
Other Sources	45.5	0.0	54.4
Other Teachers' Opinions	44.1	41.2	14.7
PALT Tests	42.9	20.0	37.2
Group Assessments	36.4	48.5	15.2
Other Standardized Tests	34.3	28.6	37.1
Student Self Ratings	29.1	25.8	45.1
Markham Math Diagnostic	22.6	3.2	74.2
Student Peer Ratings	12.5	15.6	71.9
School Based Test Reporting	6.6	10.0	83.3
BRAG:Basal Reading Assmt.	6.3	3.1	90.6
Computerized Adaptive Test	3.4	0.0	96.6

Among the Student Achievement reports, the Fall-Spring Match Report was the most frequently used PALT test report. This is a report that includes both fall and spring achievement test scores for each individual student within a grade level. The Student Goal Report/Class Alpha was mentioned as the second most frequently used report. The Preliminary Principal's Report, a ranking of students in terms of their fall test scores was third and the Parent-Teacher Conference Report was fourth. Reports used the least were labels for the student cumulative folders and test score cards. Each of these last reports had 50% or more of the respondents indicating they were never or seldom used.

Among the Administrative reports, the Grade Goal Progress Report was the most frequently used with 48% of teachers and principals in the case study schools indicating they used it often or always. Of seven administrative reports listed, this was the only one receiving less than 60% seldom or never responses. This pattern of use is consistent with the fact that these reports were designed primarily for use by administrators.

Table 2. Most Frequently Used PALT Reports (pooled, N=39)

PALT REPORTS USED FOR INSTRUCTIONAL PLANNING	Always/ Often	Some-times	Seldom/ Never
Achievement Reports	(Percent of Respondents Answering)		
Fall-Spring Match Report by grade	50.0	25.0	25.0
Student Goal Report/Class Alpha	47.8	30.4	21.7
Preliminary Principals - Rank	35.0	30.0	35.0
Parent-Teacher Conference Report	33.3	22.2	44.4
Preliminary Principals - Alpha	30.4	34.8	34.7
Final Principals Report - Fall	30.0	30.0	40.0
Test Score Cards	30.0	20.0	50.0
Labels for Student Cum Folders	28.6	28.6	42.9
Middle School Alpha Feeder	23.1	0.0	76.9
Middle School Rank Feeder	20.0	20.0	60.0
Administrative Reports	(Percent of Respondents Answering)		
Grade Goal Progress Report	47.6	19.0	33.3
Achievement Profiles	27.8	11.1	61.1
Five Year Achievement Gains Rpt.	21.1	15.8	63.2
Five Year Growth Charts	18.8	18.8	62.6
Achievement Rpt. by Ethnic Group	12.5	6.3	81.3
Board Rpt. Achievement Goal #1	6.7	6.7	86.7
Board Rpt. Achievement Goal #2	6.7	6.7	86.7

Self Ratings as Data Users

Respondents were also asked to indicate on a five point rating scale how they rated themselves as users of the full range of evaluative data in three situations: planning instruction/making decisions, developing classroom/building academic goals, and sharing data with students to improve achievement. The results are shown in Table 3.

Table 3. Self Rating as Evaluative Data User by Situation (pooled, N=39)

SITUATIONAL USES OF DATA	Always/ Often	Some-times	Seldom/ Never
	(Percent of Respondents Answering)		
Plan or Make Decisions	57.1	28.6	14.3
Develop Class/Building Goals	55.8	26.5	17.6
Share Data with Students to Improve Achievement	54.3	31.4	14.3

The responses to this question are approximately the same for each of the three data uses specified. Respondents tended to indicate moderate to heavy use of data more than light or moderate use, suggesting that they viewed themselves as frequent data users.

Preferred Test Report Formats

Respondents were asked to check the two PALT test report formats they found most useful out of a list of seven. These results are shown in Table 4.

The table shows that 64% of the respondents had a strong preference for report formats featuring individual student data. Reporting by instructional groups ranked second, with class and grade groups next. Only the principals found the school level formats useful and no respondents checked either cluster or district level report formats.

When asked "do the PALT reports you receive meet all of your instructional decision making needs," 57% indicated "no" and 43% "yes". While it is obvious that PALT reports were not designed to meet all of a teacher's decision making needs, 43% is a surprisingly large "yes" response and raises some doubt regarding the interpretation of this item.

Table 4. Most Useful PALT Test Report Format
(pooled, N=39)

REPORT FORMAT	Percent Preferring Report Format
Individual Student	63.9
Instructional Group	36.1
Class	27.8
Grade	22.2
School	2.8
Cluster/District	0.0

Survey Results: by School

Separate analyses were conducted for each case study school to see if the results would follow patterns expected for an elementary and middle school. These data are displayed in Tables 5 through 8.

Preferred Data Sources

Table 5 displays the most frequently used sources of evaluative data. The preferred sources of data varied between the two schools. The elementary school teachers reported

Table 5. Most Frequently Used Data Sources by School
(Elementary N=14, Middle School N=25)

SOURCES OF DATA	ELEMENTARY Always/ Often	Some	Seldom/ Never	MIDDLE SCHOOL Always/ Often	Some	Seldom/ Never
	(Percent of Respondents Answering)					
Performance Assessment	91.0	9.1	0.0	95.4	4.5	0.0
Oral Questioning	100.0	0.0	0.0	82.6	8.7	8.7
Teacher-Made Tests	50.0	33.3	16.7	87.0	8.7	4.3
Class Assignments	50.0	30.0	20.0	72.7	9.1	18.1
Textbook Tests	63.6	9.1	27.3	39.1	39.1	21.7
Other Sources	50.0	0.0	50.0	42.9	0.0	57.1
Other Teachers' Opinions	45.5	36.4	18.2	43.4	43.5	13.0
PALT Tests	58.4	8.3	33.4	34.7	26.1	39.1
Group Assessments	36.4	54.5	9.1	36.4	45.5	18.2
Other Standardized Tests	33.3	25.0	41.6	34.8	30.4	34.7
Student Self Rating	18.2	27.3	54.6	35.0	25.0	40.0
Student Peer Rating	9.1	18.2	72.8	14.3	14.3	71.4
Markham Math Diagnostic	100.0	0.0	0.0	33.3	4.8	61.9
Computerized Adaptive Testing	100.0	0.0	0.0	5.3	0.0	94.7
School Based Test Reporting	100.0	0.0	0.0	10.0	15.0	75.0
BRAG:Basal Reading Assmt.	9.1	90.9	0.0	9.5	0.0	90.5

Table 6. Most Frequently Used PALT Reports by School
(Elementary N=14, Middle School N=25)

ACHIEVEMENT REPORTS	ELEMENTARY Always/ Often	Some	Seldom/ Never	MIDDLE SCHOOL Always/ Often	Some	Seldom/ Never
	(Percent of Respondents Answering)					
Fall-Spring Match Report by Grade	62.5	12.5	25.0	43.8	31.3	25.1
Student Goal Report/Class Alpha	50.0	10.0	40.0	46.1	46.2	7.7
Preliminary Principals-Rank	50.0	0.0	50.0	25.0	50.0	25.0
Parent-Teacher Conference Report	33.3	11.1	55.5	33.3	27.8	38.9
Preliminary Principals-Alpha	40.0	30.0	30.0	23.1	38.5	38.5
Final Principals Report-Fall	50.0	12.5	37.5	16.6	41.7	41.6
Test Score Cards	22.2	11.1	66.6	36.4	27.3	36.4
Labels for Student Cum Folders	42.8	42.9	14.3	21.4	21.4	57.1
Middle School Alpha Feeder	0.0	0.0	100.0	30.0	0.0	70.0
Middle School Rank Feeder	0.0	0.0	100.0	25.0	25.0	50.0
ADMINISTRATIVE REPORTS	ELEMENTARY Always/ Often	Some	Seldom/ Never	MIDDLE SCHOOL Always/ Often	Some	Seldom/ Never
	(Percent of Respondents Answering)					
Grade Goal Progress Report	55.5	22.2	22.2	41.7	16.7	16.7
Achievement Profiles	28.6	14.3	57.1	27.3	9.1	63.7
Five Year Achievement Gains Rpt.	37.5	12.5	50.0	9.1	18.2	72.7
Five Year Growth Charts	33.3	16.7	50.0	10.0	20.0	70.0
Achievement Rpt. by Ethnic Group	16.7	0.0	83.3	20.0	0.0	80.0
Board Rpt. Achievement Goal #1	20.0	80.0	0.0	10.0	0.0	90.0
Board Rpt. Achievement Goal #2	20.0	80.0	0.0	10.0	0.0	90.0

a heavier reliance on PALT, textbook tests, and oral questioning strategies in the classroom than the middle school teachers. The middle school staff relied more heavily on teacher-made tests, class assignments, student self-ratings, and locally developed diagnostic materials than did the elementary staff. These patterns are consistent with expectations for schools at these respective levels in Portland given the types of data and materials that are made available at each level.

Preferred Report Types

Table 6 shows the types of PALT test reports preferred by the case study schools. Major differences were apparent in the types of test reports used by the staff of the two schools. In the student achievement reports, the elementary staff reported greater use of the three fall principal's reports (preliminary alpha, rank, and final), the fall-spring match report, and the cum folder labels than the middle school. The middle school staff reported more frequent use of the student goal report, the test score cards, and the parent-teacher conference report. In the administrative report package, the Grade Goal Progress Report and the Five Year Achievement Gains Report were more frequently used by the elementary than by the middle school teachers.

Self Ratings as Data Users

There were distinct differences between the schools on their self ratings as data users in different decision making situations. The elementary staff indicated a much higher frequency of use of data than the middle school. The elementary staff reported they used data more often for planning decisions and developing class or building goals. The middle school staff reported shared data with students to help improve achievement. These results are displayed in Table 7.

Table 7. Self Rating as Data User by Situation for Each School
(Elementary N=14, Middle School N=25)

USES OF DATA	ELEMENTARY Always/ Often	Some	Seldom/ Never	MIDDLE SCHOOL Always/ Often	Some	Seldom/ Never
	(Percent of Respondents Answering					
Plan or Make Decisions	81.8	18.2	0.0	45.9	33.3	20.9
Develop Class/Bldg Goals	81.8	18.2	0.0	43.5	30.4	26.1
Share Data with Students to Improve Achievement	63.6	27.3	9.1	50.0	33.3	16.7

INTERVIEW AND OBSERVATION RESULTS

Structured interviews were conducted with the principals, test coordinators (who were also classroom teachers), and four teachers in each of the case study schools. Teachers were selected to establish a balance by sex and ethnicity and to represent all grades. Thus for each school, at least one minority teacher was included among the two male and two female teachers interviewed. The semi-structured interviews were conducted in the late fall and early winter of 1987-88 in the elementary school and in the spring and fall of 1988 in the middle school. In each case, the principal was the first to be interviewed. Initial interviews lasted approximately one hour with the principal and were somewhat shorter for teachers. Follow-up interviews were conducted with some participants to gain additional information about questions and issues as a need arose.

In addition to these interviews, the teachers from each group agreed to be observed for up to four days each, over the course of the year. At the elementary school a total of 13 hours of classroom observations were conducted with four teachers; the teachers were observed approximately three to five hours each. Observation time at the middle school was somewhat more limited, due to time constraints imposed by beginning the observations later in the school year. At the middle school, eight hours of observation were conducted with four teachers or approximately one to four hours each.

The final data collection strategy consisted of attending staff meetings at each school. Five staff meetings were observed at each site. At the elementary school, three staff meetings were observed in November 1987, January and May 1988; at the middle school two staff meetings were observed in November 1987 and May 1988.

One problem hampered the interpretation of the data. As mentioned earlier, one author left Portland to take a position with the Colorado Springs Public Schools in August 1988. In the transition some field notes from the middle school were misplaced and have not been recovered. Therefore, results for the middle school are based in part on one researcher's field notes and in part on memory. Actual middle school observation and interview data available for analysis and interpretation include data from two principal interviews, four classroom observations, two staff meetings, two team meetings of sixth grade teachers, and four teacher interviews.

The case study results are discussed below in two ways: 1) in terms of the role of the data user, and 2) in terms of the hypothetical decision framework in which short, medium and long term planning horizons provide the basis for data use. Since the focus of the case study was on the school building, the roles of the principal, test coordinator and teachers were examined for their use of data.

The Principal's Role

Both principals in this study had been identified through the LoU study as relatively high level users of the PALT data. Little was known about their use of other types of data however. Therefore, the initial case study interviews explored their knowledge and use of other types of data, as well as the PALT data, and pursued specific uses with them.

The principals proved to be quite dependent on the data provided by the PALT reporting system. Interviews produced noteworthy differences between the principals in their data use based on 1) their own background, 2) the level of their school, and 3) the availability of enhancements to PALT in their school. Both principals used PALT test data to develop a broad view of their school's strengths and weaknesses and to help teachers target instruction on goal areas where the school was not as strong as it could be. Both principals set time aside in staff meetings several times a year to discuss test results and ways that they might be used to improve student performance. They also demonstrated detailed knowledge of the testing program, reporting system and appropriate uses of the metrics and reports produced. They conducted inservice with teachers on specific ways to interpret and use achievement data in planning instruction.

The principals differed in the specific uses they made of data and in the level of detail they pursued in analyzing and applying data in their schools. The elementary principal, a Ph.D. with 19 years experience as a principal, had just begun his tenure in his school in 1986 when the LoU study was conducted. The middle school principal, a Ph.D. with 11 years experience as a principal, had four years experience at his school when the LoU study was conducted.

The Elementary Principal

Several uses of data identified by the elementary principal include: 1) school level decision making, 2) teacher motivation, 3) reviewing and reporting individual student data, and 4) decisions about resource allocation. At the school level, he correctly identified PALT data as found in the administrative reports as being most applicable. In the LoU interview, he referred to the use of the PPS Achievement Profiles report to compare his school to others in terms of neighborhood characteristics, stability, and other factors. Textbook tests were given their own level, as if they were unique sources of data. At the classroom level, he identified teacher-made tests as a prime example.

School Level Use

The elementary principal began applying data to the management of the school immediately upon his arrival by using the Achievement Profiles and administrative reports to gain a historical perspective on the school and to establish a baseline against which he could set goals for improvement. An example of this broad, school level perspective is found in the following excerpt from an interview with the principal.

> *...I use the administrative reports and graphs to show generally whether the school is making any progress. If I see some indication that we're stagnant in some area or if I see repeated stagnation in a particular grade level, I try to see whether there was a substitute teacher that was there for the rest of that year or whether there was a new program brought in that year. For instance, in this school...they added a continuous progress program. I checked back two or three years to see whether in fact, when they added the new continuous progress program...the program didn't show any growth. It might have shown a reversal. In fact, that's what I'm seeing...that as a school, it may have reversed itself in terms of overall achievement.*

The elementary principal also used the Achievement Profile data in his day to day counseling with parents regarding the school and its relationship to other schools with similar neighborhood characteristics. This counseling also used individual student test scores and performance histories to set expectation levels and solicit parental assistance.

Another example of this school level focus, so appropriate for a principal, is found in what the principal referred to as identifying "patterns of default" in the school's goal achievement. The principal described using building reports to kindergarten, first and second grade teachers (grades at which standardized tests are not routinely given), to emphasize goal areas that were displaying patterns of weakness at later grades. His observation was that very slight weaknesses observed at lower grades would tend to increase over time, manifesting themselves in significant deficiencies as students progressed to higher grades. To identify such weaknesses he would break the test results down by goal and sub-goal at each grade level and track backwards for any deficiency he found at a higher grade. By presenting such disaggregated data to primary grade teachers he felt that he could motivate them to focus more instruction on the weak areas.

This principal tended to focus more on formal examples of measurement, such as the PALT and other standardized testing than on informal assessments. Perhaps this is what he thought we wanted to know about, or perhaps it simply reflected his own orientation as a principal with many years of experience in the system. He displayed a good grasp of the value of achievement data in focusing and targeting instruction. This valuing of data in decision making was also relayed to teachers at the school level.

> *I've capitalized on the strengths I've seen, emphasizing to the teachers that they spend the time and effort to identify specific teachings and goals areas where there are some shortcomings, and then spend some additional time -- not just time in reading and math, teaching in those areas.*

Teacher Motivation

Teacher motivation was another major emphasis for the elementary principal. He used data in a variety of ways to stimulate, interest, and motivate teachers to improve student performance. Most of his efforts seemed to be well received by the teachers. There were exceptions, however. For example, he spoke of the time he brought in a consultant from the Evaluation Department to explain the PALT system and the use of test scores in the classroom. By his own admission, many of his teachers resented the presentation, indicating that they already knew the system and its uses. In many informal asides with the researcher, the principal made it known that he felt he needed to use the data to motivate teachers to do a better job because his school's test scores were lower than he thought they should be.

Specific examples of how the elementary principal used data in his efforts to motivate teachers are 1) presentations on the achievement profiles in staff meetings, 2) sharing classroom level data, such as a goal achievement by class report with an individual teacher to help identify areas that need greater emphasis, 3) focused discussions in staff meetings, including staff meetings totally dedicated to reviewing data and making at least tentative decisions about areas to improve.

I like to loo, at reports. I have had no problems in motivating teachers after I explain how to use them and what effect they can have, I have no problem. I have teachers jump on the bandwagon and say, "Sounds great. Let's go."

The principal's emphasis on teacher motivation was also evident in the numerous testing and achievement topics included in staff meeting agendas. One February staff meeting included "an informal chat about testing." This item turned out to be a carefully orchestrated 1 1/2 hour seminar on testing and assessment that included presentations by selected staff on test-taking skills, the use of assessment in teaching, the use of the Parent-Teacher Guide to the testing system, practice items and goals for the language usage test, the use of the Scantron for scoring classroom tests to give students realistic testing practice, and the use of performance assessment techniques in whole language instruction. The meeting agenda could have served as a syllabus for an introductory graduate course on applied testing and measurement. The level of participation in the discussion was high and teachers were enthusiastic. The distinction between teaching to the test and teaching the curriculum on which the test was based was made clear. By initiating this session and having teachers themselves make the presentations, the principal was developing teacher commitment to using the testing system in a constructive way. He was focusing them on preparing the students to do their best on the tests to be given two months later and preparing the teachers to think positively about the value of the data generated by the tests.

Individual Student Data

This principal made good use of achievement data to track individual student progress, to diagnose areas needing remediation, and to group students for instruction. For example, he described his use of PALT achievement reports in the following excerpt.

We're using them to review how a particular kid stands on progress, especially if he is identified for building screening committee or other problems or concerns. We refer to that (data) as a base point for analysis of a problem.

In the classroom, he advocated appropriate use of test scores for individual students.

We use the RIT [1] scores and P-scores [2] related to the individual results that we have for kids. Some of those results come in class sheets, class forms, and we have individual reports that we get for each kid. But when we're looking at teaching goals in a classroom, they would look, more precisely, to the individual goal reports that kids have.

Resource Allocation Decisions

Within the school, the elementary principal saw some value in using administrative report data to base decisions about resource allocations. Referring again to patterns in the data, he said he analyzed the results to see whether or not he needed to put in additional "boosters" in the form of people who are resources to a program. A booster might come in the form of assigning a teacher to work in a helping role as a consultant to another in order to achieve a greater impact from a program.

Summary of the Elementary Principal's Use of Data

The elementary principal proved to be a sophisticated data user. Case study interviews and staff meeting observations validated the earlier LoU data that identified him as a high level PALT data user. He did not demonstrate as high a level of familiarity with the use of non-PALT test data however. His major uses of data are summarized as follows:

- o motivating teachers to use data for decision making
- o identifying school wide areas of weakness to target for improvement - small problems at beginning grades get larger as they progress to higher grade levels
- o tracking individual student progress - by goal area to communicate with parents about individual students
- o checking placement decisions after they were made
- o making resource allocation decisions

In terms of the hypothetical decision framework, this principal used PALT data for decisions on all three time horizons. Examples of his short-term uses include talking with parents about their student's achievement, student referral, grouping for instruction, regrouping students based on test scores, and motivating teachers data use.

This principal's mid-term uses included areas of the curriculum to emphasize, allocation of teacher resources, and grouping for instruction within a continuous progress program.

The long term uses were one of this principal's strengths. He reviewed historical achievement data on the school to see if there were areas that had suffered from neglect and used the information to refocus the instructional emphasis. He used data disaggregated by goal area and grade level to backtrack across grade levels in an attempt to identify persistent problems and direct teacher attention toward them.

Overall, this principal's uses of PALT data were consistent with his role as instructional leader in the school. He maintained a focus on the big picture, emphasized instruction in areas where he detected weaknesses, and used the PALT data as a navigational tool to help guide the course of the school. He also used PALT data as a means of motivating teachers by identifying instructional areas in need of improvement and demonstrating for them ways they might increase student performance in those areas. As a result of the principal's emphasis on PALT data use, teachers were much more conscious of the potential value of data and the ways in which it could be used to improve instruction.

The Middle School Principal

The principal of the middle school had been identified in the Levels of Use study as a LoU V (Integration) user of PALT test results. He has a reputation in the district as a data-oriented, innovative principal who takes advantage of technological innovations available to him. For example, his school was one 14 schools piloting a School-Based Test Reporting (SBTR) system, which he helped design. Through this system, each school could download a school file from the mainframe computer in the administration building to their local site using an MS-DOS PC as a terminal. The downloaded file could be manipulated

on-site to create customized reports for specific classes, grades, or other configurations. This principal was also the chairperson of the SBTR user's group. He had volunteered to be one of the first schools in the district to pilot the Computerized Adaptive Testing (CAT) system. The CAT system provides on-line, short, curriculum-based tests that yield very precise estimates of a student's knowledge of the basic skill area tested.

In case study interviews, the middle school principal discussed several categories and factors related to his data use including: 1) school level decision making, 2) teacher motivation in use of test and assessment data, 3) self perceptions, 4) factors associated with successful data use, and 5) key points for teachers regarding the use of test and assessment data in instructional planning and decision making.

School Level Use

In his initial LoU interview in November 1985, the middle school principal discussed his use of test data in three time periods: 1) long term program assessment and forecasting in the spring, 2) mid-term intake and planning in the fall, and 3) short term, ongoing instructional monitoring during the school year. These time periods correspond well to the planning horizons of the hypothetical decision framework. He described the decision making process and the uses of data from various sources for each time period.

1) Spring - program assessment and forecasting. Each spring this principal would review PALT/SBTR test data for two major purposes: program assessment and forecasting. In program assessment, he would use the RIT score means presented in the Grade-Goal Progress Report[3] to assess the overall strength of his instructional program by grade. He also used the standard P-score data on the Fall-Spring Match Report to determine how many sections of pre-algebra and algebra he would need to plan for in the fall, how many Chapter 1 classes he would have, and so forth. He also made use of optional, locally developed, diagnostic and prognostic measures such as the Portland Prognostic Math test and the Markham Math diagnostic test. During the summer, he used all the data to plan changes in instructional emphases for the next year. When teachers returned in August, he inserviced them using the spring test data and they would develop their plans for the year.

2) Fall - intake, placement, and instructional planning. In the 1985 LoU interview, the principal discussed his focus on longer range instructional planning with teachers in the fall. Incoming students with test scores were be placed in classes according to test score category (low, average or high). Supplementary classroom assessment materials were used in combination with PALT tests to create a composite picture of a student's performance. Teachers would then use the data to create appropriate instructional groups. Two years later in the 1987 case study interview, the middle school principal indicated that he had moved away from homogeneous grouping based on research findings and was grouping students in two broad groups, low to average and average to high, in terms of test results.

Specific placement decisions, such as Chapter 1, were based on standard score cutoff points (P = 43). In cases where a student was placed using a marginal score (P = 42), he would review other sources of data such as classroom performance and grades to determine whether placement was appropriate.

3) School year instructional monitoring and short term planning. During the course of the year the middle school principal encouraged teachers to make use of classroom diagnostic tools and the CAT program to monitor student performance and guide their instructional processes.

Because of his involvement with the SBTR system, this principal made strong use of the system's ability to retrieve a four point in time test history for a student and to summarize goal and class data by those four points in time. He valued the RIT score as a growth measure and clearly understood its limitations in other situations.

Other Data Used

The middle school principal used a variety of data sources for decision making, but relied primarily on PALT/SBTR data for building level decisions. He did not personally review results of the diagnostic math tests, but encouraged his teachers to use them. He worked with an instructional materials and software vendor to cross reference the locally developed Basal Reading Assessment Guide (BRAG) system to the company's materials so that BRAG objectives could be addressed by the commercial materials. BRAG tests were then used to obtain prescriptions for remediation.

He routinely reviewed behavioral data on student disciplinary and detention referrals from an Apple microcomputer database provided by central administration. Periodically, he would review the attendance data checking for overall patterns. He would also review the eighth grade credit by exam results to check the student's achievement status against placement decisions.

For individual conferences with parents, he would print out student data from SBTR to obtain data on the student's performance over four points in a two year time period. This helped a parent understand whether or not the student was progressing at a normal rate.

Self Perception as a Data User

The middle school principal revealed great confidence in himself as a data user and held a realistic view of his strengths and weaknesses.

> *I know statistical information very well. I have a thorough understanding of PALT. I have some weaknesses in terms of special education evaluation criteria and I need familiarity with special education diagnostic and placement instruments. I do well in helping teachers determine the strengths and weaknesses of students.*

He characterized his teachers as knowledgeable data users.

Factors Associated with Successful Data Use

This principal felt that the degree of trust between the principal and staff was a critical factor in data use by teachers. On use of the testing system he had this to say:

Teachers need to understand that you want to help them to help their kids and improve instruction. They need a better understanding of the (testing) system and what it is. They need to know what is in the blue book (Parent-Teacher Guide to PALT) and what sub-goals are. They need to know what the PALT levels mean and who they are for.

He felt that teacher defensiveness about data needed to be overcome and that it was the principal's role to see that this happened.

It's important for a teacher not to be defensive about data. Growth is easy to explain to parents, but explaining regression is difficult. Teachers need help here so they can be secure in explaining why scores may have declined.

This concern for helping teachers to understand the testing system, its uses and the properties and use of the various scores it produces was evident in his presentation of data in staff meetings. One of the staff meetings we observed took place in November following the release of the fall PALT test results. In the meeting the principal presented the downloaded School-Based Test Report data on math and language usage to teachers. The presentation was a thorough and detailed explanation of the purpose, philosophy, features and characteristics of the PALT and explicit instruction on how to use certain reports. The principal presented each teacher with a class-goal summary for their class, then made a presentation using overhead transparencies. He carefully explained what the report contained, noting that there were a number of new teachers in the school who might not have seen the report.

Key Points for Teachers

The principal explained three key points in his inservice (a) the types of test scores used, (b) how to use the report, and (c) the overall value of the reporting system.

The data he used were from the fall administration of the PALT but included three additional data points, providing a two year history of student achievement expressed in both RIT and P-scores. Both student level and class summary statistics were included. He provided a simple, clear and concise explanation of the RIT score, a concept that many find difficult to grasp. He had an excellent sense of just how much detail to provide to give the teachers a sense of what the score means in terms of the curriculum continuum and how it could best be used. He was equally expert in describing the P-score and its uses.

By tracing an example of one student over time, he illustrated for the teachers the difference between "normal growth" (the same P-score from year to year) and "greater than normal." He demonstrated how the report could be used to decide which goal areas to emphasize by examining the number of students in each range (low, average, high) on each goal. He focused the presentation on instructional decision making by posing two questions: 1) "what is it that we are measuring?" answering "progress on the goals of the district" and 2) "how is it measured?" which he answered by introducing the Parent-Teacher Guide to PALT as the source of information on goals and sub-goals.

The principal summarized his presentation by pointing out the value of the system in (a) lesson planning, (b) communicating with parents, and (c) working with individual students. The presentation engendered a lively question and answer session that revealed a high level of interest on the part of teachers.

Summary of Middle School Principal's Use of Data

This middle school principal lived up to his reputation as a data based decision maker, technological innovator, and instructional leader. His level of sophistication in the use of formal testing data was superior to that of the elementary principal. However, he was also more dependent on PALT data than his elementary counterpart. At the building level, he made less use of other types of data available to him, although he made such data available to teachers and encouraged their use of it.

The principal provided more structured inservice and work group decision sessions using data than did the elementary principal, reflecting both a difference in their styles and a difference in the type and quality of data available to each. Through the SBTR system, the middle school principal was able to obtain a variety of reports, including historical data, not available to the elementary principal, thus it would be expected that the middle school would be more dependent on such data. Moreover, testing does not begin for the regular students in the system until the third grade, therefore it would not be possible to have comparable historical data on elementary students until they reached the fifth grade.

The hypothetical decision framework. In terms of the hypothesized decision making framework, the middle school principal's use of data very closely conformed to the model. He made, or encouraged, short term decisions based on classroom data and SBTR data. He used multiple points in time on sub-goals to work with parents to elicit their support in working with their children on specific weaknesses. His use of the BRAG system, cross referencing to a commercial instructional system, served as a perfect example of short term planning and decision making based on evaluative data.

He also demonstrated the application of data in mid-term decision making through his use of PALT/SBTR data to make placement and forecasting decisions about students and to change those decisions based on further reviews of data.

Long term decisions included deciding on the number of sections of algebra to offer the following year, how many Chapter 1 classes to plan, etc. For these, the middle school principal relied heavily on spring PALT data, broken out by goal area.

The Teachers' Uses of Data

Interviews and observations were conducted with four teachers from each of the two schools-- the test coordinator and three teachers. Initial interviews were loosely structured and focused on types of decisions the teacher routinely made and the sources and types of data used in those decisions. A subsequent interview contained four types of questions: context, input, process and product. Context questions dealt with the types of decisions made, the teachers' feelings about their own competence in using data, and the level of

support received from the principal for data use. Input questions focused on how achievement data were used in decision making and the extent to which new decisions were being made based on data. For the middle school, additional questions were included on the use of SBTR and CAT. Process questions sought information on who participated in the decision making at various levels, extent and level of involvement of others in decision making, problems related to data use, and steps taken to resolve them. Product questions looked at inservice, services from the Evaluation Department, support needs, training needs and suggestions for improving PALT reports.

The Elementary Teachers

Two male and two female elementary teachers were interviewed and observed during the case study. Teachers were selected to obtain a balance across grade levels and by sex. One male and one female were third grade teachers; one male and one female taught fifth grade. Third grade is the first year that students are tested using the PALT.

In general, the elementary teachers evidenced familiarity with a broad range of data and its uses. They were quite facile in their descriptions of the data they used and the decision making situations in which they used it. Very little prompting was needed to elicit detailed responses. The types of assessment data identified by them as being used rather routinely and the decisions supported by the data are shown in Table 8 on the following page.

Types of Data Used

The types of assessment data displayed in Table 8 are arranged in roughly ascending order from informal to formal, with the exception of the last category, enrollment data, which is a separate class of data entirely.

It may be worth noting that none of the teachers identified, in the interview process, student self ratings or peer ratings as sources of data for decision making, although in one case a teacher did mention having students exchange papers to check their work. The distinction here is that the students were not rating one another's performance, but were assisting the teacher by checking papers. This practice also has obvious instructional benefits. None of these teachers used the phrase "performance assessment," even though they employed various forms of performance assessment, including both paper and pencil and observational techniques. In addition, only one of the four regular teachers indicated use of other teachers' opinions of students in making instructional decisions.

Summary of Elementary School Teachers' Uses of Data

The types of decisions routinely made by teachers, not surprisingly, tended to focus on the instructional needs of students individually and in groups. These are illustrated by the following examples from the interviews and observations. The examples of reports that teachers referred to in describing their uses of data emphasized those that contained individual student data, especially those that included goal analysis data, such as the Class Alpha/Goal Report, which provides goal data by individual student within a class.

Table 8.
Types of Assessment Data Used by Elementary Teachers for Decision Making

Type of Assessment Data	Uses
1. Teacher observation and judgment	1. How and what to teach
2. Oral question and answer	2. Assess the student's understanding of material, expressiveness, ability to reason, and prove point
3. Word games, e.g., "Who am I?"	3. Assess student's knowledge of material (memory); mostly in groups or individual.
4. Assignments, homework, e.g. reading assignments, long range reports	4. Assess knowledge/skill levels
5. Unit tests (weekly) a. Textbook tests (MacMillan English, Heath Math)	5. Evaluate instruction a. Screen to learn groups skill level; feedback to students on areas needing practice
b. Student writing exercises; essays	b. Assess subject knowledge and written expression
c. Student portfolios/work samples, e.g., spelling words in sentences	c. Feedback to students on what they need to study
6. PALT test data	6. Assess the strengths and weakness of the program a. Goal analysis b. Identify low achievers (Chapter 1) c. Placement in curriculum d. Evaluate growth
7. Enrollment data by class or program, e.g., Chapter 1	7. Assign and schedule aides

Test-taking skills. One of the elementary teachers interviewed was a school leader in the area of test-taking skills. She simulated the PALT testing process in her daily instructional routine as illustrated in the following excerpt.

> *I do not teach the test, but I use the blue book (Parent-Teacher Guide) to help me ask questions like they do on the PALT tests. I'll phrase questions like they phrase them on the test and teach kids the instructions and give them the practice tests in the same format as the PALT.*
>
> *I'd like the test office to develop more practice tests in individual goal areas, so I could give students practice tests in just computation or word meaning.*

This same teacher also conducted a staff inservice workshop on test-taking skills at the elementary school.

Test-taking preparation was a routine of this elementary school. At a staff meeting in mid-April, just before spring testing, the test coordinator handed out practice tests, encouraging teachers to use two practice tests before the districtwide testing was conducted. Teachers were also encouraged to read the directions for PALT Administration carefully and to plan their testing time very carefully. Instructions were given on testing absentees and on how to review answer sheets to remove stray marks and check for validity. That test-taking skills were imbedded in the curriculum was easy to observe in the classroom. Three of the observations witnessed instruction on or review of test-taking skills.

Team planning. Team planning of instruction was the norm for this elementary school. Unfortunately, scheduling problems prevented us from observing the team planning process, but the teachers described it for us and made frequent references to the process in our interactions with them. Teachers plan in grade level teams. Team planning begins in the fall before school begins and planning sessions are conducted periodically throughout the year. In the initial fall sessions, individual student scores are examined in terms of their level by goal (Low, Average, High) in each of the three subject areas tested. Students with "L" scores are reviewed more closely for specific goal weaknesses. Instructional groups are organized so that areas of weakness can be addressed.

End of year data use. Spring planning in the elementary school was aimed at making up class lists for the following fall. Teachers reviewed PALT reports in combination with other data collected over the course to assign students to classes. Data on level of performance (L, AV, H) was combined with teacher observations regarding the need for supervision, independence, special program participation (Chapter 1, LD, TAG) to establish balanced classes.

Within a class, a teacher may review the average RIT gain of his/her students and conduct a goal analysis to assess class and individual strengths and weaknesses. These goal analyses can be used for developing remediation efforts before the end of the year or for remediation of individual students in the fall. They can also be used to evaluate whether the average growth for the class is comparable to the school and the district, in much the same fashion as one would use norm-referenced data.

In using the goal analyses for remediation at year end, teachers typically combine PALT test results with textbook tests and professional judgment to diagnose specific needs. The same analyses can result in the enhancement of instruction for higher achieving students.

Another device used by teachers at year end was a summary sheet that compared individual student RIT gains in each basic skills subject against the grade level average for the district and indicated whether the student was above or below the average. The principal prepared the comparison sheets and handed them out at a staff meeting the week before spring testing. Teachers were expected to finish filling out the forms from the reports they received back after spring testing.

A Chapter 1 needs assessment was conducted in the spring to provide data for planning the fall program. The needs assessment involved two surveys which were administered by the school's Test Coordinator, who also served as the Chapter 1 coordinator. One survey, disseminated to staff and parents, asked for a rating of the need for each skill in a list of skills (no need, some need, great need) and other ancillary areas. A second survey, for teachers only, asked for a listing of student needs in reading and mathematics.

Ability grouping. Grouping by ability level for math was a commonly observed practice in this school. Lower level performance groups have alternate text materials and pullout groups were composed from across classes. This sometimes led to considerable disruption as students shuttled from room to room for special class sessions. Chapter 1 was conducted as a pullout program and pulling students out for other classes such as a computer lab was common practice at fifth grade. Reading instruction was conducted on a continuous progress basis. Data on student performance by goal and sub-goal was therefore used in placing students in math groups and monitoring their progress, but was not used in the same manner in reading.

Classroom assessment. Classroom observations revealed a reliance on worksheets and the use of oral questioning strategies to assess student performance. Worksheets were used heavily by one of the third grade and one of the fifth grade teachers. They were also discussed and shared widely in staff meetings. It appeared that management and control of students was a problem in this school and that worksheets provided a means of keeping students on task. They were also used as enrichment exercises when students finished their in-class assignments within the allotted time. Oral questioning strategies observed in the fifth grade were mostly recall of knowledge. Less frequently, they required comparision of details and inferential responses from students, although some questions required formulation of opinions. The fifth grade class was observed during a period when an English unit focused on the distinctions between opinion and fact; differences between truth and fiction were being taught. Observations of in-class social studies exercises also dealt with formulation of opinions, supported by fact.

Other classroom assessment strategies used by the elementary teachers that were directly observed are listed below.

1. Group reading. Teacher picks words or phrases from context and questions students about their meaning.

2. Demonstration/practice/reteach. The teacher demonstrated a skill and followed with observation and assistance, as needed; reteaching followed, based on the observation. Example: Italic handwriting was demonstrated on the board, followed by the teacher observing students' attempt to replicate the word. Individual assistance was given and a decision made to move on to another concept or reteach.

3. Work sampling. Teacher reviewed samples of student work, such as spelling lists sampled for specific types of errors, such as capitalization, double consonants, etc.

4. List of books read. Teacher used book lists as a means to check whether a student was progressing from less difficult to more difficult books.

5. Writing journals. Journals were used as means of developing writing skills and providing the teacher with a record of progress shared with the student. Pages are kept, but not corrected. Journals are bound and given to students at end of year. Teacher can see how student has progressed in spelling, sentence construction, etc.

6. Oral questions. The level of cognitive demand upon students varied according to the ability level of the group.

The most common in-class instructional decision observed was to decide who to help and who to discipline. Data consisted of observations of immediate behavior, responses to teacher oral questions, or the questions asked by the student.

The Middle School Teachers

As indicated in the methods section, scheduling difficulties restricted us from obtaining the same level of in-depth data collection with the middle school as we were able to obtain from the elementary level. We conducted interviews with four middle school teachers, including the Test Coordinator, observed four classrooms, observed two sixth grade team meetings, and two staff meetings.

Three female and one male middle school teachers agreed to participate in the case study. Teachers were selected to obtain a balance across grade level, subject area, and sex. Two females taught grade six; one taught math and one taught language arts. One male and one female taught grade eight; one taught math and language arts.

In general the middle school teachers were more familiar with PALT test results and classroom assessment data than the elementary teachers. They were quite knowledgeable and sophisticated in their descriptions of the data and the instructional planning or decision making situations in which they used it.

Types of Data Used

The middle school teachers used an even broader range of assessment data than the elementary teachers. In addition to the types of data listed above for the elementary teachers, these teachers made use of group assessment methods, opinions of other teachers,

student self ratings and peer ratings. The pattern of use closely parallelled that of the middle school principal, with a somewhat greater emphasis on classroom assessment as would be expected. Specific data and examples of its uses are described below.

Middle school teachers used PALT data at the beginning of the year to review student performance histories for patterns and consistency. The School-Based Test Reporting program provided teachers with two years of test data to review for patterns. One teacher assigned students many writing tasks early in the year and used the results to verify PALT performance and identify inconsistencies that could provide information for instructional planning.

The language arts teachers gave few textbook or teacher-made tests because they didn't feel tests adequately reflected their model of breaking down instructional goals into very specific sub-components for the students. They did develop their own vocabulary tests to support the reading series.

Teacher observation and judgments in the form of performance assessments were used quite effectively by one teacher in the following example.

> *...My eighth grade students were preparing to write a research paper. I asked them, "What is knowledge? How do people get knowledge? Why do we need knowledge?" The students listed places, people, and things that help them to acquire knowledge, then checked those they used most frequently, and those that were most accurate. This exercise on how to get knowledge most accurately led the students naturally into their research paper. I observe the process and student responses during discussion and get information on individual students and how they will approach the task.*

Oral questioning was also used very effectively by this teacher who was a TESA (Teacher Expectations and Student Achievement) trainer. She was knowledgeable about how to ask questions to tap higher level cognitive processes. She used different questioning strategies for different students and topics, but asked all students opinion level (evaluative) questions.

Assignments in this school tended to be those that could be done in-class. Very little homework was required because of the mixed ability levels in a given class. Essay assignments were evaluated primarily on content rather than style, spelling, or grammar. One teacher awarded A's to all assignments finished during the allotted class time.

As an example of peer ratings, one teacher read essays aloud in class and the students voted to determine which one was best. This was done in conjunction with a writing class where students were taught how to give a critical opinion of writing to peers.

The most common classroom instructional decisions were deciding who to help and who to discipline. Teachers used data from behavioral observations, responses to teacher oral questions and the type of questions asked by students.

Summary of Middle School Teachers' Uses of Data

The types and patterns of decision making by middle school teachers also followed the hypothesized decision model. PALT data were used somewhat less in the fall for assigning students to classes and more for verifying or validating classroom assessments, than was the case in the elementary school. Classes were planned in the spring, based on four point-in-time data. The Principal's Final Goal Report from the fall testing provided data which, in combination with data from the BRAG, CRT and Portland Prognostic, could be used for re-assignment of students or for zeroing in on their specific learning needs.

Over the course of the year, short range decisions at classroom level were supported by data from classroom assessments, Computerized Adaptive Testing (CAT), criterion referenced tests, and Basal Reading Assessment Guide (BRAG).

Team planning. The middle school teachers met regularly in grade level or departmental planning teams. There appear to be three different types of planning. First, the "one-legged conference" consisting of informal contacts among teachers for sharing instruction on a particular topic. Second, formally structured team planning with designated time to plan, develop common topics, brainstorm ideas, and define resources. Third, specialized instructional units were divided among team members so each teacher planned one unit and taught it to all students in the grade level. This last strategy was being discussed by one eighth grade team.

Also related to planning was the research teams formed by teachers within their departments or grade level teams to share "what works" for middle school instruction of minority learners. They addressed questions such as enhancing achievement by individualizing instruction, developing cooperative learning groups, and improving self-concept. The teachers focused on four effective strategies for improving middle school instruction of minority students in their school: 1) using team learning, 2) using student writing logs, 3) providing quality, targeted, motivational instruction, and 4) empowering student control of learning.

Classroom assessment. Observations of classrooms indicated loosely structured, warm learning environments. Teachers relied on observation/judgment, oral questionning, teacher-made tests, and peer and self assessment ratings. Because classroom management impacts instructional decisions, lots of structure was emphasized at the beginning of the year. After the group dynamics are established, the looser structure with less reliance on textbooks, lots of use of overhead projector and teacher questions, and teacher-made tests come into use. There appeared to be little direct instruction, but an emphasis on one-to-one instruction. At the end of the year, again for management reasons, teachers returned to lots of structure.

Other types of classroom assessment strategies routinely used by the middle school teachers and the decisions effected by the data included the following list.

o Teacher observation and judgment	Who and what to teach; identifying learning styles and how student uses time

o Classroom oral questionning	Assessing knowledge/understanding of content, providing feedback on student opinions, evaluating thinking skills.
o Performance/portfolio assessment	Reporting on students' goal progress
o Group assessment methods	Motivating group for cooperative learning; group assessments were used for mid-term instruction (Nov-Apr); individual assessments used early fall and late spring
o Student self ratings/peer ratings	Developing peer editing, clarifying writing criteria; providing critical opinion
o PALT test results	Assessing goal strengths and weaknesses; grouping for instructional balance; placement in special programs; tracking student progress on graduation standards

One teacher mentioned the need to provide assessment closure for students. She provided a daily summary of the assessment activity linked to instruction in the class. Students were told of the assessment at the start of a unit, reminded throughout the process, and summarized at the end. Strategies for this type of classroom assessment environment included student-to-student interaction, team tasks, simulation and games, independent study, and peer coaching.

DISCUSSION

The Hypothetical Decision Framework

The hypothetical decision framework posited at the beginning of this three year investigation breaks instructional decision making and planning activities into three levels based on the time horizon associated with each: short-term, mid-term and long-term. Decisions are then identified in terms of the decision maker and the level of the organization at which they are made: classroom decisions by teachers/aides; grade decisions by teachers/principals; school level decisions by principal; cluster level decisions by Director of Instruction; and district level decisions by central administration.

The case studies focused on decision making and data use at the building and classroom levels. We hoped to learn what decisions were made and what data were used in the process. The decision framework has proven to be a useful conceptual tool for viewing the decision - data use process. The findings of the case studies added to the validity of the framework and helped us to expand and refine the taxonomy. Further studies are needed to refine the framework if it is to serve as the basis for a model of data based decision making in a school district setting.

The Principals

Previous survey results from the first study (Hansen, 1988; Mitchell & Hansen, 1987), revealed differences in the way principals and teachers used data that were consistent with their roles. The case study results were consistent with that earlier finding. This was especially evident in the survey data which showed clear differences in the types of metrics and reports preferred by principals and teachers. This finding was further supported by the interview and observation results which showed that the principals in this study, while varying in their involvement in the details of data interpretation, tended to focus on the whole school and to model good data usage for their teachers. They not only set the tone for data use in their school, as one elementary teacher noted, but provided specific examples of appropriate usage and introduced tools for teachers to use in applying data to their instructional planning and decision making.

Both principals were more dependent on the results of formal, standardized testing than were their teachers. This finding is consistent with the role expectations of teachers and principals and with their decision making horizons and focal areas as depicted in the hypothetical decision making framework.

Principal supportiveness for teachers was perceived as high by teachers in both the elementary and middle school case studies. Teachers in both settings cited examples of how their principals used data to make decisions and how they provided the teachers with useful analyses and summaries. The demonstrations of data use seemed to motivate teachers and elicit their respect, not only for the principal, but for the use of data as well.

Much has been written about the changing role of the principal in recent years, most of which has focused on the role of the principal as instructional leader. Fewer observations have been made on the role of the principal in the information age. The accessibility of high speed, high capacity computers may be exerting a new influence on the role of the principal as a leader in the use of information to help teachers improve instruction. Portland Public Schools is one of a relative handful of schools using the type of technology exemplified by CAT and SBTR. As these types of technological innovations become more commonly available, teachers will have access to virtually continuous streams of electronic feedback on their students. They will need leadership that understands how to make the best use of this technology for planning and making decisions to help students learn. It is worth noting that before the case study was completed, the elementary principal notified the researchers that he was very interested in the CAT and SBTR systems and hoped that he could be one of the first elementary schools to be involved with these systems.

The Teachers

Teachers in the study were mostly skilled data users, just as they had identified themselves to be in the survey. Some differences were evident in the types of data available to teachers at the two levels, and their uses followed from the differences. The availability of CAT (at a neighboring school) and SBTR at the middle school, naturally resulted in more reliance on PALT data for middle school teachers. As suggested earlier, the teachers at both schools tended to follow the lead of their principal when it came to data use.

In the survey, teachers expressed a strong preference for classroom assessment data. This is consistent with findings by Stiggins (1985). Interviews and observations, especially at the elementary level, revealed that classroom practices were consistent with the survey findings. Stiggins and others who have intensively studied the classroom assessment environment have found standardized tests to be among the least useful forms of measurement for instructional decisions. However, it should be clear that the Portland Achievement Levels Test (PALT) is not just another standardized test. It is specifically designed to measure the breadth and scope of the local curriculum and is not in any way dependent on a norming population for interpretation. The PALT has been identified by Haney (1985) as one of the most educationally useful measurement programs in a school district anywhere in the country. The Computerized Adaptive Testing system utilizes items from the PALT and produces scores which are valid, low error estimates of performance on the PALT. This results in an instructionally sensitive feedback system that can provide individual teachers with a quick and accurate assessment of student mastery of curriculum objectives.

The survey and case study results were consistent regarding the types of reports used by teachers and confirmatory of their preference for data on individual students. Teachers' preference for reports was a function of the level of detail the report provided on individual students. Their most frequently used reports were those that provided data on individual student goal attainment. The more detailed and specific the analysis of data, the more useful the teachers perceived the report to be. This is not surprising in the least, but tends to confirm that good teachers focus more on the needs of individual students than on those of a group.

The findings regarding types of reports preferred by school level varied in ways that are difficult to explain. Elementary teachers reported greater use of fall data from the principals' reports and saw less value in the Parent-Teacher Conference report, and labels for cum-folders. They saw more value in the Grade Goal Progress Report and Five Year Achievement Gains. Middle school teachers were less dependent on fall data and preferred the Class Alpha/Goal Report and Principal's Alpha. These differences could be attributable, at least in part, to differences in the principals' preferences. Principal style, interest in data, facility with data interpretation and use, and leadership certainly seemed to play a significant role in determining the patterns of use among the teachers.

SYNTHESIS AND RECOMMENDATIONS

Several impressions and interpretations emerge from this study that are not so much a product of the data as they are borne of the researchers' experience in conducting the case study. They are listed below in no particular order of importance.

1) There are principals and teachers who are effective data users, contrary to popular myth. These educators understand the value of the data available to them and make good use of it in their daily routines. We found more evidence of data use than anticipated, even among the high data use case study schools.

2) A key factor in whether a school is a high data use school or not is the principal's attitude toward and comfort level with data. Principals set the tone and create the ethos for data use by the way they model the use of data in the planning and decision making process. We did not explore the issue of why the case study principals were high data users or how they developed into data users.

3) Questions remain whether the behaviors of the principals and teachers in these high data use schools are observably different from those in lower data use schools. How different are they? In what ways do they differ? The answer to these questions would help us to understand how data users develop and how the central office support system might better address their needs. Further study is needed to explore these questions.

4) High student transiency affected, possibly in a restrictive fashion, the flexibility of data use among teachers in the case study schools. One teacher noted the complete turnover of his lower level math group of 15 students between September and February. The effects of this type of transiency on data use are not well known. One can speculate that the decision framework in such cases would be more restricted to the short-term, placing a greater emphasis on classroom and criterion referenced forms of assessment.

5) The Research and Evaluation Department should consider developing a unified report of Portland Achievement Levels Tests score results, science testing, and direct writing assessments.

6) The Research and Evaluation Department should develop an Assessment Guide for teachers and principals which might include information on (a) the role of testing and assessment, (b) development of effective classroom assessments, (c) preparation of students for testing, (d) communication with parents about assessment, and (e) use and interpretation of Portland Achievement Levels Tests (PALT). Training and dissemination of the Assessment Guide should also be implemented by the Department.

7) The Research and Evaluation Department should revise the Test Coordinator's Manual. The manual might include information on (a) philosophy of testing in Portland Public Schools, (b) interpretation and use of PALT test results, (c) descriptions of the PALT testing program, (d) logistics of testing, (e) facsimiles of PALT test reports, and other information applicable to Test Coordinators.

During 1989, the results of the Decision Making study are being used to design training and support materials for effective use of data in schools. We hope to continue to explore the utility of the decision making framework posited for this study in other settings. This may necessitate revising the taxonomy to more closely correspond to the types of data available in a specific district or school.

The application of appropriate, timely, high quality information to the instructional decision making process suggests a circle that begins and ends with student learning. All too often this circle has been interrupted at the principal-teacher level due to inappropriate information or misapplication of appropriate data to the improvement of instruction. The promise of this research study is that it offers a realistic means of assuring that quality data are appropriately applied in completing that circle.

References

Alkin, M. & Stecher, B. (1983). *Evaluation in context: Information use in elementary school decision making.* Studies in Educational Evaluation. Los Angeles, CA: Pergamon Press, 23-32.

Alkin, M., Daillak, R., & White, P. (1979). *Using evaluations: Does Evaluation Make a Difference?* Beverly Hills, CA: Sage.

Cross, R. (1980). *A description of decision making patterns of school principals.* The Journal of Educational Research. 73(3).

Haney, W. (1985, Oct). *Making testing more educational.* Educational Leadership, 4-15.

Hansen, J. (1988, April). *The Use of Evaluative Data for Instructional Planning and Decision Making: Selected Survey Results.* Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.

Loucks, S., Newlove, B., & Hall, G. (1975). *Measuring Levels of Use of the Innovation.* Austin, TX: University of Texas, Research and Development Center for Teacher Education.

Miles, M. & Huberman, A. (1985). *Qualitative Data Analysis: A Sourcebook of New Methods.* Beverly Hills, CA: Sage Publications.

Mitchell, S. (1988, April). *Levels of Evaluation Use and Student Achievement.* Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.

Mitchell, S. & Hansen, J. *The Use of Evaluative Data for Instructional Planning and Decision Making in the Portland Public Schools, Year One Report: July 1986-August 1987.* Portland, OR: Research and Evaluation Department, Portland Public Schools.

Pechman, E. & King, J. (1986, April). *Analyzing the School Evaluation Process to Make Evaluation Worth the Effort.* Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA.

Stiggins, R. (1985). *Evaluating Students by Classroom Observation -- a study guide on achievement assessment via observation and judgment.* National Education Association Professional Library, No. 1525-3 New Haven, CT.

Stretcher, B. (1983, April). *The relationship between evaluative data and school decision making.* Paper presented at the annual meeting of the American Educational Research Association, Montreal, Quebec.

Yin, R. (1986). *Case Study Research: Design and Methods.* Beverly Hills, CA: Sage Publications.

Endnotes

1. RIT stands for Rasch unIT. A unit of measurement named for the Danish mathematician Georg Rasch, who developed the single parameter model of scaling test items, based on their log-item easiness. The RIT scale is a continuous, equal interval scale tied to the Portland curriculum. It ranges from approximately 140 to 280, spanning grades three through eight.

2. P-score stands for Portland Score, a standard score with a mean of 50 and a standard deviation of 10. It is developed separately for each grade and subject encompassed by the PALT each time the tests are given.

3. The Grade Goal Progress Report for a school shows the fall and spring data for each curriculum goal by grade in RIT means and their deviations from the districtwide mean for that goal and grade, as well as the fall-to-spring growth for the school and its relation to the district average growth. Deviations of .5 or more are considered meaningful.

APPENDICES

A. Case Study Survey

B. Summary of Frequency Tables

C. Case Study Interview

USE OF EVALUATIVE DATA IN INSTRUCTIONAL DECISIONMAKING

CASE STUDY SURVEY - February 1988

1. Please circle the extent to which you use these data sources in instructional planning and decisionmaking.

	NEVER		SOME SELDOM	OFTEN	ALWAYS
PALT tests	1	2	3	4	5
Other standardized tests	1	2	3	4	5
Teacher-made tests	1	2	3	4	5
Textbook tests/District adoption inventories	1	2	3	4	5
Performance assessments	1	2	3	4	5
Oral questioning strategies	1	2	3	4	5
Group assessment methods	1	2	3	4	5
Opinions of other teachers	1	2	3	4	5
Assignments	1	2	3	4	5
Student peer rating	1	2	3	4	5
Student self rating	1	2	3	4	5
Markham Math Diagnostic Test	1	2	3	4	5
BRAG: Basal Reading Assessment Guide	1	2	3	4	5
Computerized Adaptive Testing (CAT)	1	2	3	4	5
School Based Test Reporting (SBTR)	1	2	3	4	5
Other:_____	1	2	3	4	5

2. Check the PALT reports you use.
Circle the extent of use of the reports that you checked.

<u>Student Achievement Reports:</u>					
____ Student Goal Report by class (alpha)	1	2	3	4	5
____ Test Score Cards	1	2	3	4	5
____ Parent-Teacher Conference Report	1	2	3	4	5
____ Preliminary Principal's Report (alpha)	1	2	3	4	5
____ Preliminary Principal's Report (rank)	1	2	3	4	5
____ Final Principal's Report - Fall	1	2	3	4	5
____ Fall-Spring Match Report by grade	1	2	3	4	5
____ Labels for Student Cum Folders	1	2	3	4	5
____ Middle School Alpha Feeder Report	1	2	3	4	5
____ Middle School Rank Feeder Report	1	2	3	4	5
<u>Administrative Reports:</u>					
____ Goal Progress Report by grade	1	2	3	4	5
____ Report on Five Year Achievement Gains	1	2	3	4	5
____ Report on Board Achievement Goal #1	1	2	3	4	5
____ Report on Board Achievement Goal #2	1	2	3	4	5
____ Achievement Report by Ethnic Group	1	2	3	4	5
____ Five Year Growth Charts	1	2	3	4	5
____ Achievement Profiles	1	2	3	4	5

3. To what extent do you use evaluative data in instructional planning and decisionmaking? 1 2 3 4 5

	NEVER	SELDOM	SOME	OFTEN	ALWAYS
4. To what extent do you use evaluative data to develop classroom or building academic goals?	1	2	3	4	5
5. To what extent does sharing assessment data with students positively effect achievement?	1	2	3	4	5

6. Check the decisions in which you use evaluative data in your role. Circle the type of test score you use in the situations that you checked (RIT score, P-score, Other score, or Not Applicable).

____ Goal setting by class or building	RIT	P	O	NA
____ Student placement/scheduling	RIT	P	O	NA
____ Grouping/regrouping students	RIT	P	O	NA
____ Curriculum evaluation	RIT	P	O	NA
____ Public communication	RIT	P	O	NA
____ Reviewing individual student growth	RIT	P	O	NA
____ llocating funds	RIT	P	O	NA
____ Student promotion	RIT	P	O	NA
____ Communicating with parents	RIT	P	O	NA
____ Communicating with teachers	RIT	P	O	NA
____ Reporting to the district	RIT	P	O	NA

7. PALT test scores are grouped in different formats. Check the two (2) formats most useful to you.

____ Individual student
____ Instructional group
____ Class
____ Grade
____ School
____ Cluster
____ District

8. To what extent would you use expanded technical assistance or inservice of the Evaluation Department, if these services were available to you? 1 2 3 4 5

9. Do the PALT reports you receive meet all of your instructional decisionmaking needs? Y N

If no, what other types of information would you find useful? For what purposes?_____

_____

_____

10. Would you like to receive more information on other types of assessment besides PALT? Y N

If yes, what types?_____

_____

_____

_____

11. If you had one wish or one change you could make in the PALT test reports you receive, what would you wish?

_____

_____

_____

_____

12. Additional comments:_____

_____

_____

_____

PLEASE COMPLETE THE FOLLOWING INFORMATION:

1. Type of school: K-5 ____ 6-8 ____

2. Role: Principal ____ Asst. Prin. ____ Teacher ____ Test Coord. ____

3. Years in Role: 1-5 ____ 6-12 ____ 13-19 ____ 20+ ____

4. Sex: Female ____ Male ____

5. Age: 30-39 ____ 40-49 ____ 50-59 ____ 60-69 ____

6. Highest Degree: Bachelor ____ Master ____ Doctorate____

Name (optional)_____

PLEASE RETURN TO STEPHANIE MITCHELL, EVALUATION DEPT, BESC
THANK YOU.

CASE STUDY SURVEY
Question 1

EVALUATIVE DATA SOURCES USED FOR INSTRUCTIONAL PLANNING (Rank Order)	Never/ Seldom	Some	Always/ Often
Performance Assessment		6.1	93.9
Oral Questioning Strategies	6.3	6.3	87.6
Teacher-Made Tests	8.6	17.1	74.2
Assignments	18.8	15.6	65.6
Textbook Tests	23.5	29.4	47.0
Other	54.4		45.5
Opinions of Other Teachers	14.7	41.2	44.1
PALT Tests	37.2	20.0	42.9
Group Assessment Strategies	15.2	48.5	36.4
Other Standardized Tests	37.1	28.6	34.3
Student Self Rating	45.1	25.8	29.1
Markham Math Diagnostic	74.2	3.2	22.6
Student Peer Rating	71.9	15.6	12.5
School Based Test Reporting	83.3	10.0	6.6
BRAG: Basal Reading Assessment	90.6	3.1	6.3
Computerized Adaptive Testing	96.6		3.4

CASE STUDY SURVEY
Question 2

PALT REPORTS USED FOR INSTRUCTIONAL PLANNING	Never/ Seldom	Some	Always/ Often
Achievement Reports (Rank Order)			
Fall-Spring Match Report by grade	25.0	25.0	50.0
Student Goal Report/Class Alpha	21.7	30.4	47.8
Preliminary Principals - Rank	35.0	30.0	35.0
Parent-Teacher Conference Report	44.4	22.2	33.3
Preliminary Principals - Alpha	34.7	34.8	30.4
Final Principals Report - Fall	40.0	30.0	30.0
Test Score Cards	50.0	20.0	30.0
Labels for Student Cum Folders	42.9	28.6	28.6
Middle School Alpha Feeder	76.9		23.1
Middle School Rank Feeder	60.0	20.0	20.0
Administrative Reports (Rank Order)			
Goal Progress Report by Grade	33.3	19.0	47.6
Achievement Profiles	61.1	11.1	27.8
Five Year Achievement Gains Rpt.	63.2	15.8	21.1
Five Year Growth Charts	62.6	18.8	18.8
Achievement Rpt. by Ethnic Group	81.3	6.3	12.5
Board Rpt. Achievement Goal #1	86.7	6.7	6.7
Board Rpt. Achievement Goal #2	86.7	6.7	6.7

CASE STUDY SURVEY
Question 3

USES OF DATA FOR INSTRUCTIONAL PLANNING	Never/ Seldom	Some	Always/ Often
Planning or Making Decisions	14.3	28.6	57.1
Developing Class/Building Goals	17.6	26.5	55.8
Sharing Data with Students to Improve Achievement	14.3	31 4	54.3

CASE STUDY SURVEY
Question 4

DECISION SITUATIONS	RIT	P	RIT & P	RIT & Other	P & Other	All	Other	N/A
Setting Class/Building Goals	17.4	8.7	17.4	4.3	4.3	4.3	4.3	39.1
Student Placement/Scheduling	16.0	24.0	24.0			12.0	4.0	20.0
Grouping Students/Regrouping	14.8	18.5	11.1		3.7	14.8	14.8	22.2
Curriculum Evaluation	12.5	25.0	12.5			12.5		37.5
Public Communication			31.3	6.3		6.3	12.5	43.8
Reviewing Student Growth	21.7	13.0	13.0			17.4	13.0	21.7
Allocationg Funds		11.1						88.9
Student Promotion	12.5	6.3	25.0				6.3	50.0
Communicating w/Parents	7.1	14.3	39.3			10.7	10.7	17.9
Communicating w/Teachers	8.7	13.0	39.1			8.7	8.7	21.7
Reporting to the District		12.5	25.0	6.3		6.3	6.3	43.8

CASE STUDY SURVEY
Question 5

TEST REPORT FORMAT (Rank Order)	Preferred Format
Individual Student	63.9
Instructional Group	36.1
Class	27.8
Grade	22.2
School	2.8
Cluster	
District	

CASE STUDY SURVEY
QUESTION 6

INTEREST/USE OF EXPANDED EVALUATION TECHNICAL ASSISTANCE	NEVER/ SELDOM	SOME	ALWAYS/ OFTEN
ALL SITES	30.0	33.3	36.7

CASE STUDY SURVEY
QUESTION 7

DO PALT REPORTS MEET YOUR DECISION MAKING NEEDS?	YES	NO
ALL SITES	42.3	57.7

CASE STUDY SURVEY
Survey Question 1

EVALUATIVE DATA USED FOR INSTRUCTIONAL PLANNING	ELEMENTARY SCHOOL			MIDDLE SCHOOL		
	Never/ Seldom	Some- times	Always/ Often	Never/ Seldom	Some- times	Always/ Often
PALT Tests	33.4	8.3	58.4	39.1	26.1	34.7
Other Standardized Tests	41.6	25.0	33.3	34.7	30.4	34.8
Teacher-Make Tests	16.7	33.3	50.0	4.3	8.7	87.0
Textbook Tests	27.3	9.1	63.6	21.7	39.1	39.1
Performance Assessment		9.1	91.0		4.5	95.4
Oral Questioning Strategies			100.0	8.7	8.7	82.6
Group Assessment Strategies	9.1	54.5	36.4	18.2	45.5	36.4
Opinions of Other Teachers	18.2	36.4	45.5	13.0	43.5	43.4
Assignments	20.0	30.0	50.0	18.1	9.1	72.7
Student Peer Rating	72.8	18.2	9.1	71.4	14.3	14.3
Student Self Rating	54.6	27.3	18.2	40.0	25.0	35.0
Markham Math Diagnostic	100.0			61.9	4.8	33.3
BRAG: Basal Reading Assessment	90.9	9.1		90.5		9.5
Computerized Adaptive Testing	100.0			94.7		5.3
School Based Test Reporting	100.0			75.0	15.0	10.0
Other	50.0		50.0	57.1		42.9

CASE STUDY SURVEY
Survey Question 2

PALT ACHIEVEMENT REPORTS USED FOR INSTRUCTIONAL PLANNING	ELEMENTARY SCHOOL			MIDDLE SCHOOL		
	Never/ Seldom	Some- times	Always/ Often	Never/ Seldom	Some- times	Always/ Often
Student Goal Report/Class Alpha	40.0	10.0	50.0	7.7	46.2	46.1
Test Score Cards	66.6	11.1	22.2	36.4	27.3	36.4
Parent-Teacher Conference Report	55.5	11.1	33.3	38.9	27.8	33.3
Preliminary Principals-Alpha	30.0	30.0	40.0	38.5	38.5	23.1
Preliminary Principals-Rank	50.0		50.0	25.0	50.0	25.0
Final Principals Report-Fall	37.5	12.5	50.0	41.6	41.7	16.6
Fall-Spring Match Report by Grade	25.0	12.5	62.5	25.1	31.3	43.8
Labels for Student Cum Folders	14.3	42.9	42.8	57.1	21.4	21.4
Middle School Alpha Feeder	100.0			70.0		30.0
Middle School Rank Feeder	100.0			50.0	25.0	25.0
PALT ADMINISTRATIVE REPORTS USED FOR INSTRUCTIONAL PLANNING	**Never/ Seldom**	**Some- times**	**Always/ Often**	**Never/ Seldom**	**Some- times**	**Always/ Often**
Goal Progress Report by Grade	22.2	22.2	55.5	16.7	16.7	41.7
Five Year Achievement Gains Rpt.	50.0	12.5	37.5	72.7	18.2	9.1
Board Rpt. Achievement Goal #1	80.0	20.0		90.0		10.0
Board Rpt. Achievement Goal #2	80.0	20.0		90.0		10.0
Achievement Rpt. by Ethnic Group	83.3	16.7		80.0		20.0
Five Year Growth Charts	50.0	16.7	33.3	70.0	20.0	10.0
Achievement Profiles	57.1	14.3	28.6	63.7	9.1	27.3

CASE STUDY SURVEY
Survey Question 4

DECISIONS SITUATIONS	MIDDLE SCHOOL						
	RIT	P	NA	RIT/ P	RIT/ OTHER	P/ OTHER	ALL
Setting Goals by Class/Bldg.	14.3	14.3	35.7	14.3	7.1		7.1
Student Placement/Scheduling	6.7	26.7	20.0	26.7	6.7		13.3
Grouping/Regrouping Students	5.6	16.7	22.2	16.7	22.2	5.6	11.1
Curriculum Evaluation		44.4	33.3	22.2			
For Public Communication			40.0	40.0	20.0		
For Reviewing Student Growth	21.4	14.3	21.4	14.3	14.3		14.3
For Allocating Funds		20.0	80.0				
For Student Promotion	11.1		44.4	33.3	11.1		
Communicating With Parents	5.9	11.8	17.6	41.2	17.6		5.9
Communicating With Teachers	7.1	14.3	21.4	42.9	14.4		
Reporting To The District		22.2	33.3	33.3	11.1		

CASE STUDY SURVEY
Survey Question 4

DECISIONS SITUATIONS	ELEMENTARY SCHOOL						
	RIT	P	NA	RIT/ P	RIT/ OTHER	P/ OTHER	ALL
Setting Goals by Class/Bldg.	22.2		44.4	22.2	11.1		
Student Placement/Scheduling	30.0	20.0	20.0	20.0			10.0
Grouping/Regrouping Students	33.3	22.2	22.2				22.2
Curriculum Evaluation	28.6		42.9				28.6
For Public Communication			50.0	16.7	16.7		16.7
For Reviewing Student Growth	22.2	11.1	22.2	11.1	11.1		22.2
For Allocating Funds			100.0				
For Student Promotion	14.3	14.3	57.1	14.3			
Communicating With Parents	9.1	18.2	18.2	36.4			18.2
Communicating With Teachers	11.1	11.1	22.2	33.3			22.2
Reporting To The District			57.1	14.3	14.3		14.3

CASE STUDY SURVEY
Survey Question 3

USED OF DATA FOR INSTRUCTIONAL PLANNING	ELEMENTARY SCHOOL Never/ Seldom	Some- times	Always/ Often	MIDDLE SCHOOL Never/ Seldom	Some- times	Always/ Often
Data to Plan or Make Decisions		18.2	81.8	20.9	33.3	45.9
Data to Develop Class/Bldg Goals		18.2	81.8	26.1	30.4	43.5
Share Data w/Students to Improve Achvmnt	9.1	27.3	63.6	16.7	33.3	50.0

CASE STUDY SURVEY
Survey Question 5

	ELEMENTARY SCHOOL Yes	No	MIDDLE SCHOOL Yes	No
Individual Student - Most Useful Format	100.0		100.0	
Instructional Group - Most Useful Format	100.0		100.0	
Class - Most Useful Palt Format	100.0		100.0	
Grade - Most Useful Palt Format	100.0		100.0	
School - Most Useful Palt Format	100.0			
Cluster - Most Useful Palt Format				
Disrtict - Most Useful Palt Format				

CASE STUDY SURVEY
Survey Question 6

	ELEMENTARY SCHOOL Seldom	Some- times	Always/ Often	MIDDLE SCHOOL Never/ Seldom	Some- times	Always/ Often
Extent Use Expanded Tech. Assistant	11.1	66.7	22.2	38.1	19.0	42.8

CASE STUDY SURVEY
Survey 7

	ELEMENTARY SCHOOL Yes	No	MIDDLE SCHOOL Yes	No
PALT Rpts. Meet Decisionmaking Needs	25.0	75.0	50.0	50.0

CASE STUDY PROTOCOL

Part I. Principal's Name_____School_____

Thank you for agreeing to participate in a case study interview. As part of a district wide study of evaluation use, we gathering perceptions on how evaluation data are used in instructional decisions. The research is designed to guide policy decisions about how data are used at the building level.

Our operational definition of evaluative data includes a wide range of data sources, such as PALT tests, other standardized tests, teacher-developed tests, textbook tests, teacher observation and judgement of student performance, assignments, grades, etc. All your responses will be treated confidentially. Do you have any questions before we begin?

Part II. Administrator Interview Questions

Context Questions

1. What decisions, if any, do you routinely make using data?

2. How do you feel about your competence in using data for instructional planning and decision making?

3. How do your teachers feel about the use of evaluative information for instructional planning and decision making?

Input Questions

4. How do you use achievement data to make instructional plans or decisions for the building?

5. Have any new decisions been made based on available data?

6. Has the School Based Testing Program changed anything in how you make instructional decisions?

7. Has the Computer Adaptive Testing (CAT) program changed anything in how you make instructional decisions?

Process Questions

8. Who participates in instructional planning and decision making at the building level?

9. To what extent, are others involved in the decision making? What is the nature of their involvement?

10. What are the potential or actual problems related to using data to plan instruction?

11. What steps have been taken to resolve these problems?

Product Questions

12. What is the extent of inservice available to you in using evaluative data to plan instruction or inform decisions?

13. How can measurement and evaluation more effectively serve your decision making needs?

14. What services, reports, and training are needed to make the most effective use of data in your decision making?

15. What suggestions do you have for improving PALT reports?

16. What are the positive and negative aspects of using data for instructional planning and decision making?

17. What factors are associated with the success or failure of using evaluation data for instructional decision making?

18. What kind of training or support would you find most helpful in improving the collection and use of data to make instructional decisions?

Thank you for your participation. We appreciate your taking time from your busy schedule to assist with this study.

CASE STUDY PROTOCOL

Section I. Introductory Comments

Teacher's Name_____ School_____

Thank you for agreeing to participate in a case study interview. As part of a district wide study of evaluation use, we are interested in gathering your perceptions of how evaluation data are used in instructional decisions. The research is designed to guide and inform policy decisions about how data are used at the classroom and building level.

Our operational definition of evaluative data includes a wide range of data sources, such as PALT tests, other standardized tests, teacher-developed tests, textbook tests, teacher observation and judgement of student performance, assignments, grades, etc. All your responses will be treated confidentially. Do you have any questions before we begin?

Section II. Instructional Staff Interview Questions

Context Questions

1. What decisions, if any, do you routinely make using data?

2. How do you feel about your competence in using data for instructional planning and decision making?

3. How does your principal support the use of evaluative information for instructional planning and decision making?

Input Questions

4. How do you use achievement data to make instructional plans or decisions for your class?

5. Have any new decisions been made based on available data?

6. Has the School Based Testing Program changed anything in how you make instructional decisions?

7. Has the Computer Adaptive Testing (CAT) program changed anything in how you make instructional decisions?

Process Questions

8. Who participates in instructional planning and decision making at the classroom level?

9. To what extent, are others involved in the decision making? What is the nature of their involvement?

10. What are the potential or actual problems related to using data to plan instruction?

11. What steps, if any, have been taken to resolve the problems?

Product Questions

12. What is the extent of inservice available to you in using evaluative data to plan instruction or inform decisions?

13. How can measurement and evaluation more effectively serve your decision making needs?

14. What services, reports, and training are needed to make the most effective use of data in your decision making?

15. What suggestions do you have for improving PALT reports?

16. What are the positive and negative aspects of using data for instructional planning and decision making?

17. What factors are associated with the success or failure of using data for instructional decision making?

18. What kind of training or support would you find most helpful in improving your collection and use of data to make instructional decisions?

Thank you for your participation. We appreciate your taking time from your busy schedule to assist with this study.