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AUTHOR Zakaluk, Beverley L.
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ABSTRACT

A study investigated the effectiveness of integrating computer technology (multimedia learning resources in a "virtual" classroom) with content area and reading and writing curriculum. All students in grades 2 through 5 at Sun Valley Elementary School, Canada, had their reading and writing assessed. In addition, the writing performance of students in 2 outside-the-division schools, one rural and one suburban, was compared with the writing performance of Sun Valley students; and the reading and writing performance of students in the French immersion and regular programs at Sun Valley were compared. Teachers, resource teachers, and the school administrator were interviewed. Results indicated that (1) students in all grade levels (including students in the French immersion program) significantly improved their reading achievement in both vocabulary and comprehension; (2) students in all grade levels (including students in the French immersion program) made significant gains in their writing achievement; (3) Sun Valley students' performance ratings were significantly higher than performance ratings of students in the two comparison schools; (4) teachers appreciated receiving the standardized test results, and were highly pleased when results indicated significant student gains; and (5) classroom teachers reached a consensus that previously taught informative text structures require continued reinforcement. (Contains 20 references and numerous unnumbered tables, charts, and figures of data. Appendixes present reading scores; writing scores; guidelines for General Impression Scoring; analytic trait scoring guides; and exemplary papers. (RS)

SUN VALLEY ELEMENTARY SCHOOL READING AND WRITING ASSESSMENT PROJECT: FINAL REPORT

Submitted by

Beverley L. Zakaluk, Ph.D.

Faculty of Education

University of Manitoba

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Background Underlying the Present Assessment

Over the last number of years, a major thrust in the River East School Division has been the integration of computer technology into the reading, writing and content area curriculum. This multimedia curriculum innovation has involved both program and staff development with assessment and evaluation being integral components.

Phase I

The first phase to integrate technology into the regular curriculum began in the 1989-1990 school year with a focus on Writing for Meaning. The primary objective was to provide gifted, regular and at-risk students with a learning environment that would enable them to generate, compose and revise non-narrative or informative text. In keeping with this objective, the following curricular components were established and student performance evaluated.

1. A series of thinking and writing instructional strategies and scoring rubrics (Think More...Write More) were produced to enhance the quality of students' compositions.

2. Computer network facilities were upgraded within each school to enable communication between and among classrooms at the same and at different grade levels.

3. A software program called Writers' Knowledge Builder which is a complete writing environment that supports the integration of word processing and computer graphics was developed and made available.

4. Staff development sessions were implemented to assist teachers in integrating writing with content area curriculum using the computer software. An important outcome of the staff development initiative was the creation of a number of instructional guides integrating science, social studies and the language arts. As part of this program, Sun Valley school developed a social studies unit on the Winnipeg Strike of 1919 and Grade Five students wrote historical short stories.

Evaluation. To evaluate the efficacy of the program, the informative writing of students in 6 classrooms from grade 4 to 6 in 6 different schools in the division was evaluated after a concentrated 10 week period of instruction, the focus of which was the curriculum components outlined above (Freeze, 1990). Findings showed statistically significant gains in writing performance, supporting the effectiveness of the curricular innovations.

Phase II

In the 1990-91 school year, an additional technological component, Networking for Learning, that connected division schools

through WAN (Wide Area Network) was added to support the curricular innovations. Program development continued to centre on:

1. The construction of teaching units integrating topics in science and social studies with language arts;

2. The installation of networked Mac workstations, printers and data shows in both classrooms and libraries;

3. Writing instruction using Think More...Write More; and

4. The use of Writers' Knowledge Builder, a computer software package permitting the integration of word processing and graphics as writing resources.

Evaluation. Twelve classes from grades 4 to 9 were involved in a focused 10 week intervention featuring the program components. Three classes were used as a control group in order to compare the informative writing performance before and after instruction. Statistically significant gains in writing performance were evident, replicating the results of the 1989-90 study and adding further support to the efficacy of the program (Freeze, 1991).

An additional area for study was to assess the attitudes and perceptions of participating students and staff regarding the program. A number of data sources were employed. Questionnaires probed both teachers' use of the instructional strategies and students' awareness and perception of the strategies. Data from staff and student interviews were analyzed as well as students' content area record sheets and the results of focus group discussions. The analysis of the survey information showed that the attitudes of both staff and students toward the program were positive and that teachers were teaching and students were aware of and using the Think More...Write More strategies to enhance the quality of their writing.

Phase III

The emphasis on integrating the computer technology with instruction in the content areas and language arts in grade 4 to 9 continued in 1992-93. In 1993-94, computer support for the program was expanded. Both LAN (Local Area Network) and WAN (Wide Area Network) facilities were installed. This innovation permitted students in the same and other schools to network not only with each other but also with business partners. The purpose of the networking was to provide students with opportunities to network and study with others and to receive further feedback on their writing. Students were encouraged to contact an interested audience on their topic of study. In each school students could communicate from any work station with students in another classroom, using their own electronic file. Schools were also paired and classes in each school selected a common unit of study. Students in the paired classrooms discussed what they were learning through the WAN.

As part of this new project, Sun Valley Grade Five students paired with Grade Five students at Maple Leaf school, another school in the Division, and studied the science topic "Forces and Motion". Students verified the findings of the experiments they were conducting with each other and held writing conferences to receive feedback on the clarity of their science reports. In addition, Sun Valley Grade Five students corresponded through WAN with a physicist at the University of Manitoba who both answered students' questions and posed new questions for further reflection. At-risk students also wrote to a Language Arts professor in the Faculty of Education about the science experiments they were conducting. Her responses helped them elaborate on and clarify their science experiment reports.

Other classes at Sun Valley studied other countries and other regions in Canada by communicating on the network with students in other communities to discover first-hand, through the eyes of children their own age, what these communities were like.

Evaluation. In order to assess the effects of this expanded program on the informative writing performance of students in grades 4 to 9, a larger sample involving 24 classes across 12 schools was selected. Writing samples were obtained prior to a 10 week concentrated focus on the use of the program and then a second set of writing samples acquired. Comparisons of the pre and post intervention writing samples indicated significant gains in writing performance, further validating the multifaceted program which integrated computer technology with the content area and language arts curricula (Freeze, 1994).

Phase IV

Virtual classroom. The next innovation in integrating computer technology with the content area and reading and writing curriculum was the development and sharing of multimedia learning resources in a virtual classroom, employing the Internet for the purpose of improving literacy. In addition to including all of the features of Networking for Learning, the focus in the 1994-95 school year was to provide multimedia and network support for literacy as well as to develop learning resources.

Evaluation. A number of schools in the River East School division had introduced school-wide literacy initiatives using the intervention that employed; 1) Writing for Meaning; 2) Networking for Learning; 3) the use of the Internet; and 4) multimedia authoring using Knowledge Builder. In contrast to the previous pilot assessments which had evaluated students' writing performance across schools in the Division, in order to demonstrate the efficacy of the program innovation in 1994-95 the total performance of students in one elementary school in the division, Sun Valley, was evaluated.

Sun Valley school had participated in the curriculum innovation to integrate computer technology into content

area/language arts instruction from the beginning. At Sun Valley, 6 Mac computers had been placed in each classroom and a Mac lab with 14 computers had been installed in the library. Macintosh computers with multimedia supports had also been installed in each primary classroom. Among the software programs being used were:

1. *Talking books in the primary classes, including Wiggleworks (Scholastic) Discis, and Bravo (See Nikkel, 1994 for an assessment.)*

2. *Writers' Knowledge Builder*

3. *Multimedia Knowledge Builder which provides for the integration of multimedia resources in students' compositions including colour, sound, graphics, quick time movies and hyperdata buttons.*

Other initiatives being undertaken were:

1. *The development of teacher guides for the content area topics being studied; and*

2. *The use of the WAN as well as the internet to provide students with the opportunity both to study with others and to communicate with authentic audiences.*

Five, one-half day workshops were provided for staff, half of which were on the teaching of writing strategies and how to evaluate students' writing, and the other half on integrating the computer software program Writers' Knowledge Builder into the content area/language arts curriculum.

All students in Grades Two through Five participated in this phase of the evaluation. Since reading is an integral part of the writing/content area multimedia curriculum, reading performance was also assessed. In addition: 1) the writing performance of students in two outside-the-division schools, one rural and one suburban, was compared with the writing performance of Sun Valley students; and 2) the reading and writing performance of students in the French immersion and regular programs at Sun Valley were compared. (See Zakaluk, 1995.)

In the world in general and in education particularly, there is an irreversible movement underway that is propelling us from printed to electronic forms of reading and writing (Reinking, 1994). This document reports on the Sun Valley school phase of the evaluation of the multimedia program development taking place in the River East School Division.

After an introduction which documents events leading up to this present assessment, this report is presented in two major parts: first, the findings related to student reading performance, describing the results of the Spring administration of the Gates-MacGinitie standardized reading survey test (2nd Canadian Edition) and comparing achievement gains in meaning vocabulary, reading comprehension and overall reading performance over the course of the school year from October, 1994 to May, 1995; and second, findings pertaining to the writing of informative text, describing the results from the January and May samplings and comparing achievement gains according to general impression and analytical trait scoring from October to January and from January to May, as well as from October to May.

In addition to comparing student performance at Sun Valley over the course of the school year, two other sets of comparisons are reported. These are: (1) comparing the Spring performance of students in the French immersion program with the performance of students within the regular stream in both reading (meaning vocabulary, comprehension and overall scores) and writing (both general impression and analytic trait scoring); and (2) comparing the Spring informative writing performance of students at Sun Valley with the performance of students in two comparison schools, one rural and one suburban (both general impression and analytic trait scoring). Note that the comparison schools component of the evaluation was limited to the assessment of informative writing only and not reading.

At the end of the 1994-95 school year, teachers, resource teachers and the school administrator were interviewed in order to obtain their views regarding the reading and writing assessment program. A third section of the report relates the information obtained through these staff interviews.

Students from grades two through five participated in the assessment. Accordingly, the results of the evaluation are reported by grade level within each of the two major areas: reading and writing. After presenting the findings from the staff interviews, the report concludes by summarizing results and making recommendations for both instructional programming and future literacy evaluations. One outcome of the writing assessment is a set of exemplars or range finders that may be used in rating writing papers in future assessments. These are included in the appendices. An overview of the evaluation and a summary of findings and recommendations is provided first.

OVERVIEW

Reading

Sun Valley school has had an exemplary reading evaluation program in place. Reading performance has been monitored by having students read aloud a set of exemplary passages graded according to difficulty level. Word recognition performance is coded and then analyzed to establish the number and quality of: substitutions, insertions, omissions, mispronunciations, repetitions, reversals, pauses, spontaneous corrections and teacher prompts. Comprehension is assessed both by having students retell what they have read and by asking them a set of literal, inferential and critical thinking questions based on the passage. In addition to yielding information about reading achievement levels and reading comprehension, the administration of this kind of informal inventory of word recognition performance familiarizes teachers with the kind of strategies students are using to unlock words and, in turn, helps tailor subsequent reading instruction to meet the needs of each child. As well as administering informal inventories to assess each child's reading achievement as required, teachers monitor and assess students' reading progress by having them read graded passages prior to each reporting period in the Fall, Winter and Spring.

Before the beginning of the 1994-95 term, however, the school administrator planned a supplement to the informal reading assessment program, beginning with the administration of the **Gates-MacGinitie** standardized test (2nd Canadian Edition). The purposes underlying the introduction of a second measure to assess reading performance were to: (1) validate the Sun Valley informal reading inventory assessment program; (2) determine the percentage of students reading below, at, and above grade level; and more globally to (3) measure reading gains for the 1994-95 school year and in conjunction with this to (4) evaluate the effectiveness of the Sun Valley instructional program. Equally important objectives were to: establish baseline data for future comparisons of reading performance, as well as identify students requiring further diagnosis, monitoring and/or specialized instruction. The intent was to continue the informal reading inventory assessments as a follow-up to discover and monitor the strengths and weaknesses of low-achieving students identified through the standardized test screen.

Obtaining the standardized test information adds a complementary dimension to the diagnostic data derived from the informal individualized testing. The **Gates-MacGinitie** uses Canadian norms and permits comparisons between the performance of students at Sun Valley school with the performance of students in other Canadian schools in which the tests were normed. The standardized test data obtained from the 1994-95 school year marks the beginning of the collection of archival data to document the reading achievement of Sun Valley students for future reference. The data serve

as a baseline upon which to judge performance in upcoming years and to evaluate whether educational standards are being maintained. For the present, used in conjunction with the informal testing program, information from the administration of the standardized test enables educators at Sun Valley to make progress visible and to inform not only their students and their parents, but also the general public about reading achievement in their school.

The Gates-MacGinitie Standardized Reading Test

The second Canadian edition of the Gates-MacGinitie norm-referenced survey test (1990-91) was chosen for use in the Sun Valley project because it is cost effective in terms of both money and the use of instructional time for test administration. The Canadian edition was adapted from the American version by establishing Canadian norms, correcting spelling to conform to Canadian usage and substituting alternate reading selections that reflect the Canadian experience. Calfee (1985) recommends the test for a wide variety of purposes including program evaluation, grade placement, research and reporting to the community.

Test content. At both early years and upper levels, the Gates-MacGinitie reading test has two subtests: meaning vocabulary and comprehension. The words on the vocabulary subtest were chosen either from the Harris and Jacobson Basic Reading Vocabularies word list (1982) or Dale and Rourke's The Living Word Vocabulary (1976). The target words represent the parts of speech (nouns, verbs and adjectives) in the same proportion as parts-of-speech counts on the Dale list of 3,000 words known by students in grade 4 (Dale & Chall, 1990), and the Francis and Kucera Frequency Analysis of English Usage (1982).

At both early years and upper levels, comprehension questions are at both literal and inferential levels. Particularly at the upper levels (grades four and five), the passages used to test comprehension include selections from a variety of content areas, including science and social studies, and therefore possess content validity. Both females and males from various ethnic groups are represented in the reading selections. The readability level of the selections was assessed and confirmed by using: 1) three readability formulas - the Dale-Chall, the Fry, and the Harris Jacobson; and 2) the judgment of two experienced reading supervisors.

Administration. The Gates-MacGinitie standardized test is comprised of two parallel forms, one form to be administered at the beginning of the school year and the alternate form at the end. Test administration is timed, with the vocabulary subtest taking 20 minutes and the comprehension subtest 35 minutes, with an additional 15 minutes being needed each class period to distribute text booklets and demonstrate how to complete sample items. Raw scores are converted into percentile ranks, stanines, t-scores, grade equivalent and extended scale scores. Norms for fall, midyear and end of year testing are provided.

Norming. A representative sample of 46,000 Canadian students from the ten provinces and the Yukon was used to construct the norms. Their scores were compared to the existing distributions for the American edition of the test. This comparison produced a table of differences which was then used to calculate the Canadian norms. Test-re-test reliability coefficients range from .91 to .96. In addition to content validity, evidence supports substantial relationships between the Gates-MacGinitie and other tests that purport to measure reading achievement.

Swerdlik (1992) suggests that the Gates-MacGinite underwent a comprehensive test development process, is well standardized and simple and time efficient both to administer and to score.

Scoring. Using scoring keys provided by the test developers, classroom teachers in Grades Two and Three hand scored the test protocols of their students. The protocols for Grades Four and Five were sent for machine scoring to Nelson Canada, the test distributors.

Analysis

At each grade level, raw scores were translated into stanines, percentiles and grade equivalent scores as well as T-scores and extended scale scores. Based upon stanines and percentile scores, teachers were able to use the results of the standardized testing to inform both students and their parents about individual progress over the course of the school year.

T-scores allow comparisons between and among students across different grade levels. They are derived from percentile ranks that have been statistically transformed into a scale of equal units. The mean is set at 50 with a standard deviation of 10. The transformation of raw scores into T-scores permits comparisons between scores within a particular grade level.

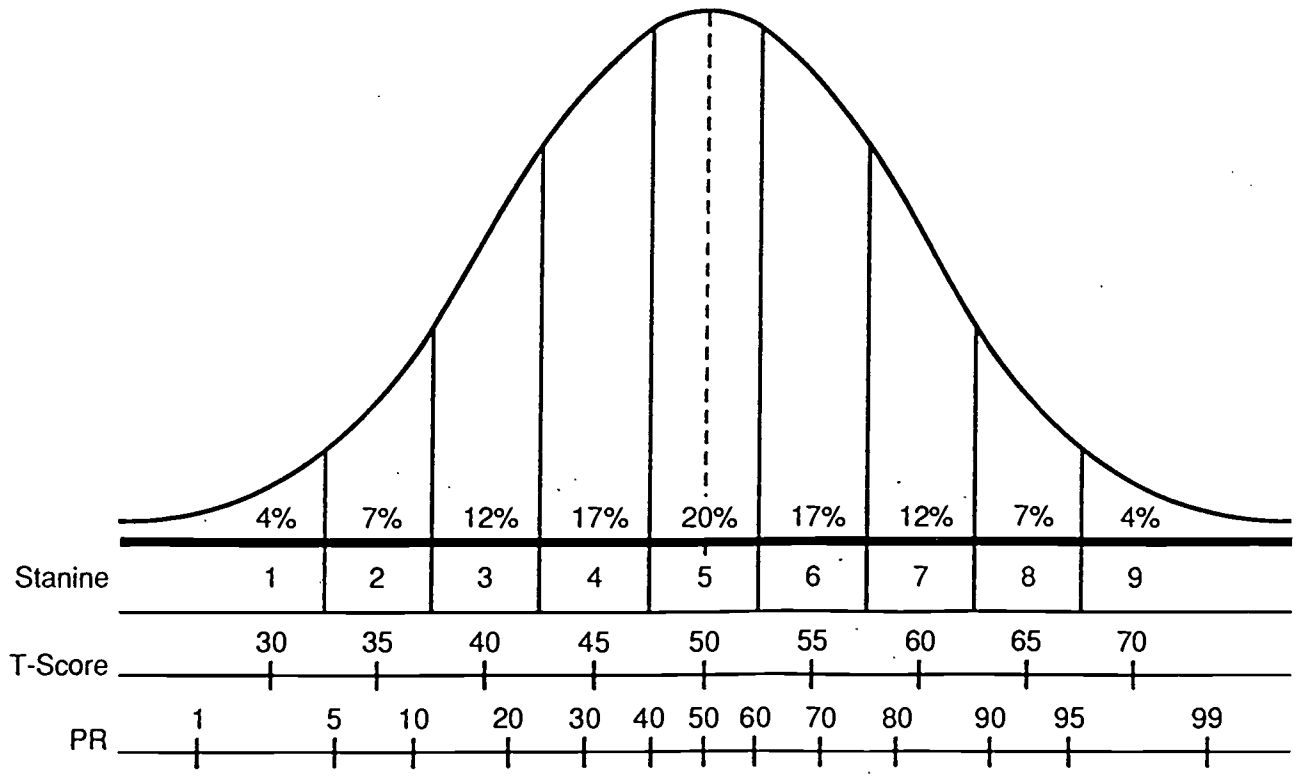
Extended scale scores allow progress in reading to be followed over a period of years on a single, continuous scale. Extended scale scores rank each student's achievement on a universal scale, thus permitting year to year comparisons among all the students in all grades.

In order to facilitate the interpretation of test results and to correspond with the normal curve, in analyzing test results T-score units were divided into sets of five with a midpoint and range of 2.5 on either side. For example, a midpoint range of 50 represents a range of T-scores from 47.5 to 52.5, and a midpoint range of 35 portrays a range of T-scores from 32.5 to 37.5. An illustration of the normal curve showing the relationship between T-scores, stanines and percentile ranks, is presented next. A T-

score range of 50 compares to performance in the 5th stanine or falls within the 40th to 60 percentile. Normally, 20 percent of the scores fall within this range. The actual Gates-MacGinitie scores for vocabulary, and comprehension performance, as well as for both scores combined, are included in the appendices.

In addition to the descriptive analysis, a further analyses was conducted to establish whether differences in performance from the Fall to the Spring were statistically significant. Grade equivalent scores were used in this analysis. Within each grade level, statistical comparisons were also carried out to determine whether there were any significant differences between the Spring performance of French immersion students and students in the regular stream. Grade equivalent scores were also employed in this analysis.

RELATION BETWEEN STANINES, T-SCORES, AND PRs



(Source: Teacher's Manual, Gates-MacGinitie Reading Tests.)

Summary of Findings: Reading

In addition to the most immediate purposes underlying the administration of the Gates-MacGinitie standardized test of validating informal reading inventory interpretations and determining which students were reading at, above and below grade placement level, further objectives of the reading assessment were to: measure gains in reading achievement between the Fall and the Spring for the 1994-95 school term; compare the reading performance of students at Sun Valley with the reading performance of students in the norming group; and based upon these results, validate the instructional program at Sun Valley school. Many French immersion teachers were concerned that their English speaking students in the immersion program would not make the same achievement gains as their counterparts in the regular program because the French immersion students receive only one hour of instruction in English language arts each day. Another objective of the standardized test evaluation project therefore was to determine whether there were any significant differences between the performance of students in the French immersion program and the performance of students in the regular stream. The major findings examining performance across the grade levels are outlined below.

Overall Results

Statistical Comparisons: Fall to Spring

- For all grade levels, there were statistically significant reading achievement gains from the Fall to the Spring in both vocabulary and comprehension and when both scores were combined, indicating that overall, students at Sun Valley are making very satisfactory progress in reading.

Vocabulary

Comparisons with National Norms

- For all grades, Spring vocabulary performance exceeded the national norms.

Support. For Grade Two in the Spring for vocabulary performance, there was a central tendency with scores clustering at and above the mean. While 19.09 percent of the students scored within the midpoint range of 45 (4th stanine), 12.73 percent scored within the midpoint range of 50 (5th stanine), but 26.36 percent within the midpoint range of 55 (6th stanine). Despite this central tendency, 66.36 percent of the students scored within or above the midpoint range of 50 (5th, 6th, 7th, 8th and 9th stanines), which is above the national average.

At the Grade Five level there was also a central tendency with approximately 33 percent of the Spring vocabulary scores falling within the midpoint range of 50 (5th stanine) and approximately 18 and 15 percent falling on either side (4th and 6th stanines, respectively). Despite this central tendency, compared to a normal distribution in which 60 percent of the scores fall at average levels or above, at Sun Valley 67.05 percent or approximately two-thirds of the scores fell within average and above average levels.

For Grades Three and Four, vocabulary performance was positively skewed. The Spring results were especially striking with 78.02 and 78.94 percent of the students respectively scoring within average and above average levels, which is outstanding.

Dispersion of Scores

- Except at the Grade Four level where performance at upper levels improved from the Fall to the Spring, the dispersion of scores suggests that the current instructional program for vocabulary at Sun Valley meets the needs of low-achievers, but on the other hand that the best students may not be sufficiently challenged.

Support. When the dispersion of vocabulary scores from the Fall to the Spring at the Grades Two and Five levels was examined more closely, the analysis indicated that increases at the lower levels accounted for the majority of Fall to Spring performance gains in vocabulary. This tendency was also evident at the Grade Three level, although the trend was not as pronounced. Seven Grade Three students attained vocabulary scores in the 8th stanine in the Fall, but only 2 reached these levels in the Spring. Grade Three scores at the 9th stanine for vocabulary were relatively stable. In the Spring, 2 students (compared to 1 in the Fall) obtained scores at this level. In contrast, at the Grade Four level more students scored at the 8th and 9th stanines in the Spring than in the Fall.

Comprehension

Comparisons with National Norms

- For all grades, Spring comprehension performance exceeded the national norms. At the Grade Five level there was a central tendency with scores clustering around the mean. Nevertheless, 70.76 percent or over two-thirds of the students scored within average and above average levels, which is outstanding. At all other levels, the dispersion of comprehension scores reflected a positively skewed distribution, suggesting that the comprehension performance of students at Sun Valley is well above the national norms.

Support. For Grade Two in the Spring, 14.45 percent of the students scored within the midpoint range of 45 (4th stanine), 27.27 percent within the midpoint range of 50 (5th stanine), but more importantly, 34.55 percent within the midpoint range of 55 (6th stanine). Almost 81 (80.91) percent of the Grade Two students scored within or above the midpoint range of 50 (5th, 6th, 7th, 8th and 9th stanines). For Grades Three and Four, comprehension performance was also exceptional with 84.61 and 88.16 percent of the students respectively scoring within average and above average levels. In a normal distribution, 60 percent of the scores fall within these limits, indicating that the comprehension performance of students at Sun Valley is exceptionally high. At the Grade Five level, over 70 percent of the students scored at average levels or above.

Dispersion of Scores

- As was the case with vocabulary performance except at the Grade Four level where comprehension performance at upper levels improved from the Fall to the Spring, an examination of the distribution of scores at Grades Two, Three and Five showed that scores seemed to level off at upper levels. Increases in performance were evident at lower levels, however. These lower level performance gains seemed to account for the Fall to Spring comprehension achievement gains. These findings suggest on the one hand that the current comprehension instructional program at Sun Valley meets the needs of low-achievers, but on the other that the best students may not be sufficiently challenged.

Overall Performance

- The same trends were evident when vocabulary and comprehension scores were combined overall. Spring performance exceeded the national norms. Increases at the lower levels seemed to account for the statistically significant achievement gains, while performance at upper levels remained relatively stable, suggesting that the current instructional program may not be challenging enough to meet the needs of the high achievers.

Comparisons between the Performance of Students in the Regular and French Immersion Programs

- The analysis of the Spring performance of students in the regular and the French immersion programs showed that at all Grade levels, there were no statistically significant differences in either vocabulary, comprehension or vocabulary and comprehension performance scores overall. The performance of the English students in the French immersion program was equal to that of their peers in the regular program.

Conclusions and Recommendations

The reading performance of students at all grade levels at Sun Valley school improved significantly from the Fall to the Spring. Furthermore, there were no statistically significant differences between the achievement of students in the French immersion and the regular program. A comparison of the performance of students at Sun Valley with the performance of students in the norming group also showed that at all levels, the reading achievement of students at Sun Valley exceeded the national norms.

When the dispersion of scores from the Fall to the Spring was examined, however, findings indicated that except at the Grade Four level where performance levels increased across the board from the Fall to the Spring, for Grades Two, Three, and Five a central tendency at upper levels was evident in the Spring. Although the figures may not be statistically significant, scores at the upper levels seemed to taper off. In contrast, scores at lower levels increased, which seems to demonstrate that the achievement gains at lower levels accounted for the statistically significant gains in performance from the Fall to the Spring. This, in turn, seems to suggest that the current instructional program at Sun Valley meets the needs of low-achievers but does not sufficiently challenge the best students.

Recommendation. It is therefore recommended that staff give serious consideration to enhancing the reading program for students whose reading achievement is above grade placement level. Among the ideas to explore include the following.

1. Since the single best way to increase vocabulary is through wide reading, provide for more leisure time reading, especially for the English students in the French immersion program. The ensuing list of sources for highly rated children's books may be helpful. In addition, each year the October issue of The Reading Teacher also contains a list of Children's choices.

2. As the titles listed suggest, it is important to maintain the links between reading and writing. Students can reflect upon and respond to what they are reading by keeping response logs and joining other classrooms (or adults from the business and academic community) on both the LAN and WAN networks, as many teachers are doing currently. Listening to the responses of others leads to further thinking, rethinking and additional reflection. The current "Home Reading' programs may also be expanded.

- **Narrative Text**

Kids' Favorite Books: Children's Choices (1992). International Reading Association.

More Kids' Favorite Books (1995). International Reading Association.

Teachers' Favorite Books for Kids (1994). International Reading Association.

- **Informative Text**

Freeman, E. B. (1991). Informational books: Models for student report writing. Language Arts, 68, 470-73.

Salesi, R. A. (1992). Reading and writing connection: Supporting content area literacy through nonfiction trade books. In E. B. Freeman and G. D. Person (Eds.), Using nonfiction trade books in the elementary classroom: From ants to zeppelins (86-94). Urbana, IL: National Council of Teachers of English.

2. Although McKeown and her colleagues (1985) suggest that raising the level of "word consciousness" through such activities as "Word Wizard" which promotes the use of vocabulary outside the classroom is an effective approach to increasing meaning vocabulary, especially for the English students in the French immersion classes also consider more structured vocabulary instruction. Teaching strategies include: creating vocabulary overview guides, list-group-label, and semantic feature analysis (Lipson & Wixon, 1991) as well as continuing the semantic webbing, structured overviews and graphic organizers already being employed.

A detailed analysis of the reading performance of students begins on page 20.

Writing

A curricular focus at Sun Valley School during the 1994-95 school year for grades two, three, four and five was informative writing. This report describes the results of an assessment of that program, comparing the informative writing performance of students within each grade from October to January, from January to May, and from October to May. Comparisons were also made between the writing performance of students in the French immersion and the regular program using the May writing protocols. In addition, May writing performance was also compared to the end-of-year writing performance of students in two comparison schools, one rural and one suburban.

The writing assessment was part of the Sun Valley literacy evaluation project, the major purposes of which were to: monitor writing performance; identify strengths and weaknesses in order to inform instruction; provide exemplars for rating students' writing; and document how well students write.

Types of Writing

Based upon their respective curricula, the classroom teachers chose the type of writing they wished to emphasize. The focus in Grade Two was on writing descriptions, while Grade Three students wrote compare/contrast text. Grade Four students focused on writing explanations and Grade Five students wrote scientific reports.

Prompts

Writing topics were chosen from the social studies, science or health curriculum guides at each respective grade level. Over the three sampling periods, students responded to three different prompts which were counterbalanced during the October and May test periods in order to control for the differential effects that dissimilar prompts might produce. The January prompts were different for each grade level. In October, one-half of the Grade Two classes told how a friend was special and the other half wrote on how they themselves were unique. In May, these prompts were reversed. In January, Grade Two students wrote about a family member who was special.

Grade Three students compared and contrasted either spring and fall or summer and winter, one half of the classes writing on each topic during the October and May test periods. In January, Grade Three students compared and contrasted a watch and a clock, explaining how they were the same and how they were different.

The pattern of counterbalancing the writing prompts continued for Grade Four students who in each of the two test periods wrote explanatory text on either how to assemble a flashlight or how to construct an electrical circuit. In January, Grade Four students told how to construct a funnel to prevent liquids from spilling when pouring from one container to the other.

In October, Grade Five students conducted and wrote a science report on an experiment to determine the relationship between slope and fiction by either tilting a board containing different objects (such as a block of wood, an ice cube, a flat stone, and a match box) and observing which object slid the fastest or by calculating the length of time it took for a paper clip to slide down taught strings composed of either nylon, wool, or household string. In January, Grade Five students reported on an experiment to develop a fire extinguisher. In the Spring, however, all Grade Five students compiled scientific reports after observing an experiment investigating the effects of friction in different liquids. The purpose of this experiment was to discover which liquid would be the best to use in lubricating a machine.

The Writing Task

Emulating a process approach to writing instruction, students completed the writing task in three separate sessions: (1) a prewriting activity which focused on thinking about and discussing the topic and beginning a first draft; (2) a drafting session in which students refined their first drafts and conferred with their partners to receive feedback, reflect upon, and revise their compositions in order to enhance writing quality; and 3) a final period in which students made revisions by editing their papers for spelling and mechanical errors.

Number of Students

The number of students evaluated at each level in the Sun Valley school project was: Grade Two, 103; Grade Three, 82; Grade Four, 74; and Grade Five, 102. Only those students for whom complete data sets were available across all test times, October, January, and May were included in the final sample. The attrition rate for Grade Two was 10; for Grade Three, 8; for Grade Four, 7; and for Grade Five, 5. When the classes were divided into regular and French immersion streams, the respective numbers were: Grade Two, 72 regular and 31 French immersion students; Grade Three, 59 regular and 23 French immersion; Grade Four 40 and 34 respectively; and Grade Five, 63 and 37. For the rural school, the number of writing protocols evaluated at each level was: Grade Two, 26; Grade Three, 22 ; Grade Four, 24; and Grade Five, 19; while the numbers for the comparison suburban school were: Grade Two, 23; Grade Three, 21; Grade Four, 21; and Grade Five, 23.

Scoring

Holistic or general impression marking (GIM). The writing protocols were rated according to two scoring systems: holistic or general impression marking (GIM), and analytic trait scoring. These measures were used in the 1988 Writing Assessment of Grade Four students conducted by the Department of Education in the Province of Manitoba. Holistic (GIM) scoring provided a single score for each piece of writing based on a scale that ranged from:

5 - 6	High
3 - 4	Middle
1 - 2	Low
0 -	Insufficient material

Holistic scoring evaluated student's writing in relation to the writing of other students. Raters decided where each paper fit within a series of exemplars or range-finders selected from the best to the least well-written of all the papers at each grade level.

A guide for holistic or general impression marking (GIM) is appended.

Analytic traits. Analytic trait scoring produced a more in depth evaluation of writing quality. In keeping with the different informative writing tasks, there were variations in the scoring criteria employed to rate papers at each grade level. These are described in the ensuing paragraphs. In every case, however, criteria were categorized under the general headings of content, organization, and mechanics and usage. For usage and mechanics, sentence quality, grammatical usage, punctuation and capitalization as well as spelling were rated. These latter traits were the same at each grade level.

For assessing the content and organization of the descriptive writing of Grade Two students, the content ratings were: focus, the presence of detail and elaboration, and wording. Organizational features evaluated were ordering information from the first to the least important attributes and having a beginning, middle and end. For the compare/contrast writing at the Grade Three level, content elements assessed were: the identification of the two things being compared and contrasted and why comparing and contrasting them was important, a description of how the two things were alike, how the two things were different, the use of key words and the presence of a conclusion. Papers were also rated according to how well they adhered to the compare/contrast organizational pattern.

For the explanatory writing at Grade Four, the traits for evaluating content were: introduction of the topic, the inclusion of key words and special terms, the presence of a comprehensive sequence of steps, and the use of diagrams. Organization was rated for the sequential presentation of steps. At the grade five level, content was rated according to whether or not an introduction to the problem was present, whether the experimental method was described, whether key words germane to compiling an experimental report were used, and whether results and a diagram were included. Students were also expected to come to a conclusion by discussing the practical implications of the experimental findings and organize their writing in the form of a scientific report.

The criteria for rating the descriptive, compare/contrast, explanatory and scientific report writing used at each grade level are appended. Analytic trait scoring is criterion-referenced.

For the October test period, teachers scored the writing protocols of students in their own classes after participating in a workshop on rating. Protocols were than scored by a second rater, a recently retired language arts consultant with a Master's degree in education. The January and May protocols were rated at the same time, two steps being taken to control for rater bias. First, the writing protocols of students in the

two comparison schools were coded and interspersed with the writing protocols of students from Sun Valley; and second, the writing protocols from Sun Valley students obtained in January were interspersed with the end-of-year protocols. Raters were unaware: (1) of the time at which the protocols had been obtained; and (2) that the protocols were from more than one school.

Raters. Two markers, the same recently retired language arts consultant with a master's degree in education, and a doctoral student majoring in language and literacy learning independently rated the papers to ensure scoring reliability. If scores did not differ by more than one point, the two scores were combined to yield scores that ranged from 0 to 12 for the holistic scoring and from 1 to 6 for each analytic trait. In cases in which the scores of the two raters differed by more than one point, the report writer served as an adjudicator, rating the papers for a third time and either adding the third score to the closer score or to the average of the two previous scores.

Analysis

Descriptive. A quantitative analysis of the results was conducted. For both holistic and analytical trait scoring, the descriptive analysis included the calculation of:

1. The percent of students falling within each level: high, medium and low or insufficient material; and

2. The actual number of students (frequency) who obtained each particular score.

Histograms or bar graphs to depict both holistic and analytic trait scoring results were also developed.

Statistical. Using the general impression marking scores, a one-way analysis of variance was carried out to determine whether there were any statistical differences in the writing performance of: (1) Sun Valley students from October to January, from January to May, and from October to May; (2) students in the French immersion and regular program at Sun Valley using May scores; and (3) students in Sun Valley and the two comparison schools, one rural and one suburban, again using May scores. Tukey post hoc comparison tests were used as a follow-up to identify statistically significant relationships.

Summary of Findings: Writing

General Impression Ratings

- The comparisons of the general impression ratings of the writing performance of

students in each grade level at Sun Valley school indicated that students made significant gains in writing performance between October and May.

Support. In May, over 90 percent of the Grade Two students schools received middle (5 to 8) or high (9 to 12) ratings. Similarly, at the end of the year 89.02 percent of the Grade Three students obtained either middle or high ratings, a significant achievement given the difficulty associated with writing compare/contrast text. Performance at the Grade Four level was even more outstanding with 94 percent of the students receiving general impression ratings that ranked either high (9 to 12) or middle (5 to 8). In May almost one-half of the Grade Five papers (49 percent) were rated as high (9-12), while the other fifty percent received middle ratings (5-8). The one remaining paper received a rating of 4, indicating exceptional growth overall.

- There were no significant differences between the performance of students in the French immersion program and students in the regular stream, validating the Sun Valley writing instruction program.

- Performance of the comparison schools. The writing performance of students at Sun Valley was especially remarkable given the performance of students in the two comparison schools. At all grade levels, the performance ratings at Sun Valley were significantly higher than the performance ratings of students in the two comparison schools, both the rural and the other suburban school.

Analytic Trait Scoring

Grade Two. The results of the analytic trait scoring showed that Grade Two students made gains in: (1) identifying their topic, maintaining their topic and explaining their writing purpose (87 of the 103 students received a 5 or 6 on this criteria); (2) providing more concrete details and elaborating on their topic in greater depth; (3) choosing better words to convey ideas, organizing their papers, using correct grammar and improving their ability to spell and use correct punctuation and capitalization. These results support the sustained process approach to writing that Sun Valley Grade Two teachers provided this school year.

Grade Three. The analytic trait scoring results for Grade Three revealed that students had mastered: (1) identification of topic and purpose; (2) explaining how the two things being compared were different; (3) the use of key words (both, however, while, on the other hand); and (4) how to organize compare/contrast writing. Students seemed to have a much better sense of audience. While there was considerable growth both in incorporating details regarding how the topics were similar and in drawing the paper to an appropriate conclusion, the results suggest that for some students these two areas require continued instructional emphasis. Regardless, the

overall growth in being able to compose informative compare/contrast text exceeded all expectations. The quality of students' writing demonstrates significant mastery over the genre.

Grade Four. The analytic trait scoring for Grade Four showed that students exhibited considerable expertise in: (1) identifying both their topic and purpose for writing, (2) the use of key words (first, next, then, after that); and (3) mechanics and usage. Remembering to include diagrams, providing the explanation in the correct sequence, and organizing the explanation require continued instructional emphasis. Generally, however, the mean scores for each analytic trait suggest that an appropriate instructional focus for process writing has been maintained. Further evidence to support the high quality of the end-of-year writing is contained in the protocols themselves which reflect not only the bona fide nature of the communication but also a lack of artificiality.

Grade Five. Students seemed to have internalized the organizational pattern of scientific report writing and seemed comfortable with the genre. The results of the analytic trait scoring indicated that students had developed expertise in: (1) explaining the problem; (2) describing the results; (3) organizing their writing; (4) using correct English grammar; and (5) spelling. The analytic trait scoring indicated, however, that an instructional focus must be maintained on including labelled diagrams, using key words and coming to a conclusion regarding the implications of the experimental findings. The qualitative analysis showed that with an appropriate and sustained emphasis on process writing, student performance can be improved.

Conclusions and Recommendations

The outstanding writing performance exhibited by Sun Valley students at all participating grade levels validates the writing instruction program at Sun Valley school. Both the quantitative and qualitative analysis indicate that students had developed both a sense of audience and writing fluency.

Recommendation. Maintain the tradition developed at Sun Valley school which emphasizes a process approach to writing. Continue to:

1) provide students with real writing purposes;

2) use the computer network systems (both LAN and WAN); and

3) work on the traits identified through the analytic rating evaluations.

A detailed analysis of writing performance, together with a qualitative analysis of representative writing protocols, begins on page 69.

Staff Interviews

In December, a report describing the results of the preliminary reading and writing assessment carried out in October was distributed to classroom teachers. The report identified achievement levels and made detailed instructional recommendations. (See Zakaluk, 1994.) In April and June both the classroom and resource teachers as well as the school administrator, who functions as an instructional leader, were interviewed to determine their views regarding: (1) the effects of the assessment program on both their teaching and their students' learning; and (2) the merits of the reading and writing assessment program itself. The interviews were conducted in groups: first the Grade Two and Three teachers, and then the teachers from Grades Four and Five. The Primary and the Intermediate resource teachers and the school administrator were interviewed separately. Retrospective interviews with individual classroom teachers and the school administrator were also held in July and August to confirm the data. The following conclusions and recommendations were made. They are reported first as they pertain to the reading assessment and second as they pertain to writing.

Staff Conclusions and Recommendations

Reading

Teachers: (1) appreciated receiving the standardized test results because the results: confirmed their personal assessment of student performance; identified students who were reading at, below, and above grade level; compared the reading achievement of their students with the performance of students in other Canadian schools; and were useful in reporting to parents. Sharing the standardized test results added to teachers' sense of professionalism.

(2) When the results of the May assessment showed that students had made significant gains in reading achievement over the course of the school year, teachers were highly pleased. There was a corresponding beneficial effect on the school climate.

Recommendations. (1) Now that baseline data regarding students' reading achievement is available from the Spring assessment, in the future, only administer the standardized test each Spring.

(2) Grouping students according to achievement levels for reading instruction within classrooms should be considered in order to: (i) challenge high-achieving students, and (ii) meet the needs of struggling readers.

Writing

1. The current instructional approach to teaching writing at Sun Valley school is rich, dynamic and varied. One of its greatest strength lies in the provision of authentic purposes for writing. Students did not need prodding to complete their writing assignments. Communicating with real persons through the LAN and WAN networks was motivation enough.

2. The issue of focusing on only one writing genre in each grade for purposes of assessment was discussed and resolved with the recognition that emphasis over time is necessary to achieve mastery. At each successive grade level the informative writing genre emphasized in the previous grade needs to be reviewed and reinforced.

Thus, classroom teachers reached a consensus that previously taught informative text structures require continued reinforcement.

Recommendations. (1) Use the compiled set of exemplars matching each general impression rating level: low, middle and high to evaluate the quality of students' writing. (See Appendices.)

(2) Formal assessments with all students in the same grade responding to the same prompt is recommended over and above or in addition to portfolio assessments because it is easier to maintain rating standards when the prompt is the same.

(3) Create a collection of writing prompts to correspond with each content area topic so that writing can be evaluated systematically in conjunction with each unit of study.

(4) At the administrative level, facilitate continuity of instruction in the writing of different informative text types which must be maintained across grade levels.

A more comprehensive analysis of staff views on the assessment begins on page 110.

PART I - READING ASSESSMENT

The questions for investigation included:

Both what percent and how many of the students at Sun Valley are reading at, above, and below the expected levels for their grade placement level as measured by vocabulary, comprehension, and vocabulary and comprehension performance combined as measured by the Gates-MacGinitie standardized reading test?

How well do the students in each grade at Sun Valley read compared to the students in the norming group?

At each grade level, are there statistically significant reading achievement gains from the Fall to the Spring in vocabulary and comprehension scores and when vocabulary and comprehension scores are combined?

Within each grade level, are there any statistically significant differences between the reading performance of students in the French immersion and the students in the regular program?

These questions are dealt with grade by grade.

Analyses

Grade Two

As described earlier, T-scores were used to analyze the results of the standardized testing, beginning with the results of the vocabulary subtest, then comprehension, and then both scores combined. means and percentages were examined first, followed by frequency counts. The scores of students in both the French immersion and regular stream programs were included in this analysis. To test whether performance gains were statistically significant, comparisons were made between Spring and Fall performance on each subtest using grade equivalent as opposed to T-scores. Matched pairs *t*-tests were used to analyze differences in the statistical comparisons. An additional comparison to determine whether there were any statistically significant differences in the Spring performance of students in the French immersion and regular stream was also carried out. Two sample *t*-tests for use with unequal sample sizes were used in carrying out this analysis.

I. Vocabulary

Means and percentages. A T-score of 50 means that the student's score was similar to the average score attained by students in the norming group. The mean or average score for grade two students for the Spring test period was 52.55. This compares with the average T-score obtained in the Fall of 52.23 and indicates that, relative to the students in the norming group, the students at Sun Valley are progressing at a rate that is typical for students at this grade level. A further analysis to examine how scores were distributed around the mean added further insight into students' performance on the vocabulary subtests.

As suggested earlier, the T-score units were divided into sets of five to facilitate the analysis. When the percentage of scores falling within each range was examined, the results for the Spring test period were relatively the same as the Fall results, but with an upward trend. As indicated in the accompanying table on the following page, in the Fall 19.09 percent of the students obtained a T-score within a midpoint range of 50, 21.82 percent within a midpoint range of 55, and 15.45 percent within a midpoint range of 60. In the Spring, there was a shift within these ranges with more students' scores falling within the midpoint range of 55 than previously (12.73 percent of the students obtaining scores within the midpoint range of 50, 26.36 percent within a midpoint range of 55, but 12.73 percent within a midpoint range of 60). When compared to Canadian norms (Gates-MacGinitie) in which 37 percent of scores (20 plus 17) fall within the midpoint ranges of 50 and 55 (5th and 6th stanines), the results indicate that: 1) vocabulary performance at Sun Valley in the Fall was above average; and 2) students maintained this edge in the Spring.

It was at the upper levels, however, that students at Sun Valley outperformed students in the norming group and the effect was most noticeable. In the Fall, just over 30 percent of the students' scores fell within the midpoint ranges of 60, 65 and 70 (15.45 plus 6.36 plus 9.09), while Spring performance showed that just over 27 percent of the students's score fell within these midpoint ranges (12.73 plus 8.18 plus 6.36). When these results were compared to the normal distribution of scores in which typically 23 percent of the scores fall, it is evident that the vocabulary knowledge of students at Sun Valley exceeds national norms.

An examination of the percent of students who scored below the mean in the Fall compared to those who scored below the mean in the Spring reveals an encouraging pattern. Normally, 11 percent of the scores fall within the ranges of 30 and 35. In the Spring, no students' scores at Sun Valley fell in the midpoint range of 30 (compared to 3.64 percent in the Fall and 4 percent in a normal distribution) and only 2.73 percent fell in the midpoint range of 35 (compared to 7.27 in the Fall and 7 percent in a normal distribution). These percentages, which reflect outstanding performance, may be found

in the following table.

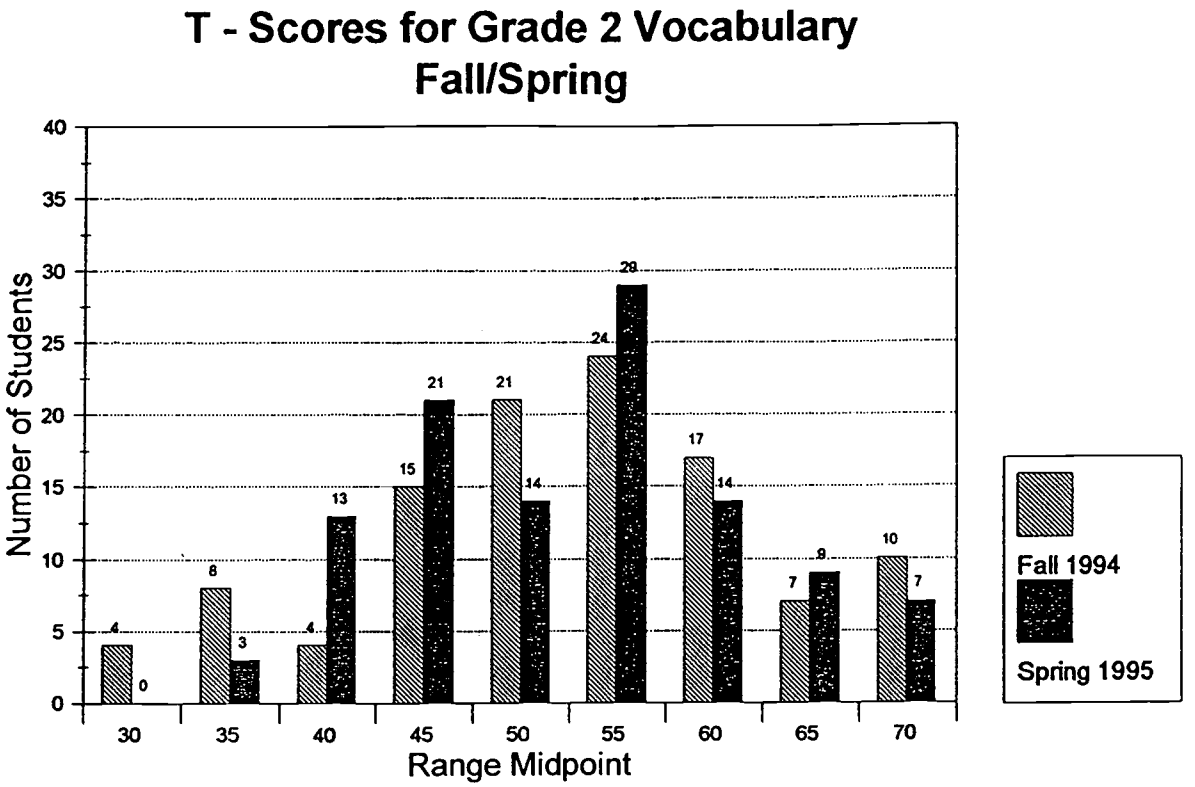
T - Scores for Grade 2, Vocabulary

Range Midpoint	Percent		Frequency	
	Fall	Spring	Fall	Spring
30	3.64	0.00	4	0
35	7.27	2.73	8	3
40	3.64	11.82	4	13
45	13.64	19.09	15	21
50	19.09	12.73	21	14
55	21.82	26.36	24	29
60	15.45	12.73	17	14
65	6.36	8.18	7	9
70	9.09	6.36	10	7

Frequency counts (N = 110). As shown in the above table, when the frequency counts for vocabulary were surveyed, findings support the results shown by the means and percentages. What is most noticeable was that in the Spring more students' scores fell within the midpoint ranges of 40 to 45 (13 plus 21 = 34) than in the Fall when 19 students' scores (4 plus 15) fell within these ranges. The second most noticeable finding was that compared to the Fall test period in which the scores of 24 students fell within the midpoint range of 55, in the Spring this figure jumped to 29.

At the upper end of the continuum, in the Fall 34 scores (17 plus 7 plus 10) fell in the midpoint ranges of 60, 65 and 70, while in the Spring, 30 scores (14 plus 9 plus 7) fell within these ranges. There may be no statistically significant differences between these numbers, however. Interpreted in terms of the normal distribution of scores, the results show that the vocabulary knowledge of 30 of the 110 students corresponds with the vocabulary knowledge of students in the 7th, 8th and 9th stanines.

These performance differences were most evident through an examination of the chart on the next page. The histogram indicates a jump in vocabulary performance from Fall to Spring within both the midpoint range of 55 and the midpoint range of 45, with fewer scores falling at the lower end of the scale (12 between 30 and 35 in the Fall, and only 3 within these ranges in the Spring), suggesting that an appropriate instructional program that meets the needs of low-achievers is in place at Sun Valley.



II. Comprehension

Means and percentages. With a T-score of 50 indicating average performance, the mean performance for comprehension in the Fall was 53.76 and in the Spring, 53.35, suggesting that reading comprehension achievement for Sun Valley students is very similar to the national average. Examining mean scores only may be deceptive, however.

A closer examination of the percent of scores within each midpoint range shown in the table on the next page indicated that as a group, students at Sun Valley were reading at a higher level. Most importantly, a substantive jump in performance levels occurred between the Spring and the Fall within the midpoint ranges of 50 and 55 (Spring: 27.27 plus 34.55 = 61.82; Fall: 20.91 plus 23.64 = 44.55). To have almost 62 percent of the students performing in the 50 to 55 midpoint range (5th and 6th stanines) is outstanding because normally, 37 percent of the scores fall within this range.

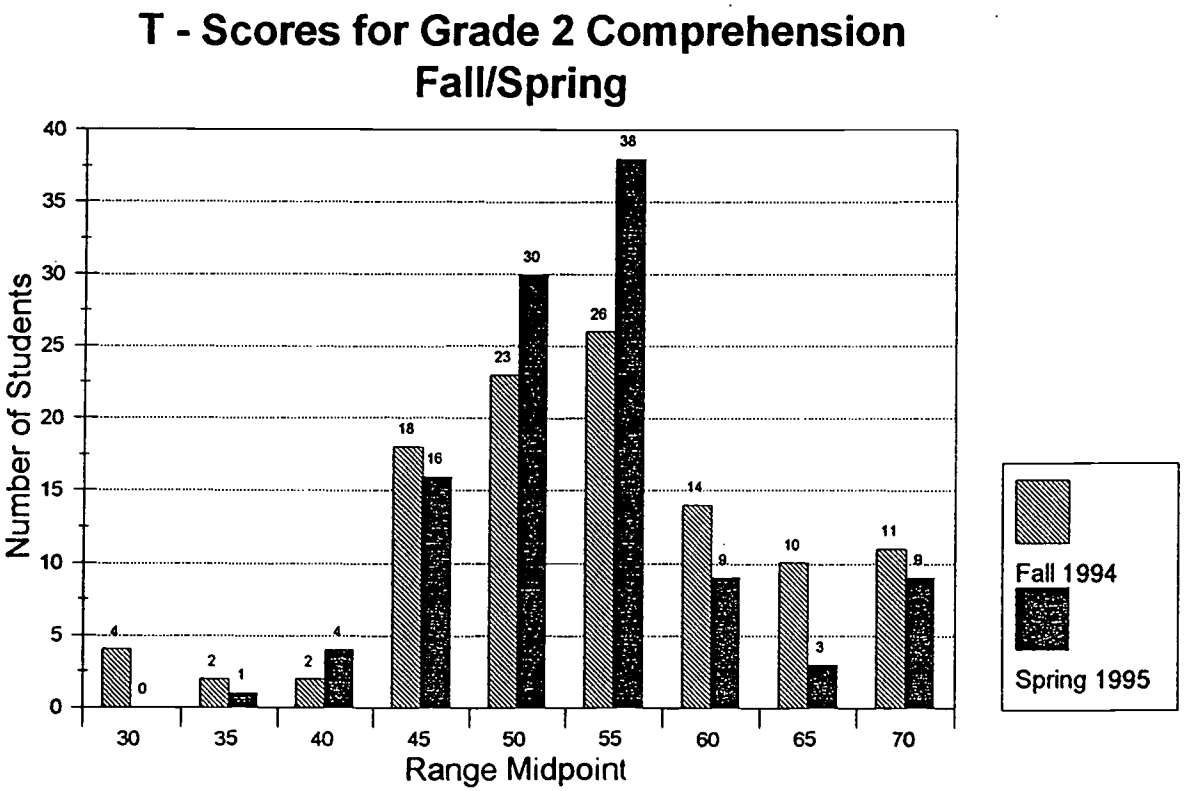
Performance at upper levels from the midpoint ranges of 60 to 70 fell somewhat from the Fall to the Spring with 31.82 percent of the scores falling within these ranges in the Fall (12.73 plus 9.09 plus 10.00) and 19.09 percent (8.18 plus 2.73 plus 8.18) in the Spring. While in the Fall approximately 23 percent (3.64 plus 1.82 plus 1.82 plus 16.36 = 23.44) of the scores fell within the lower midpoint ranges of 30 to 45; in the Spring performance improved, with less than 20 percent (0 plus .91 plus 3.64 plus 14.55 = 19.10) of the scores falling within these lower ranges. This performance is above the Canadian norm in which case 40 percent of the scores fall between the T-score ranges of 30 to 45.

T - Scores for Grade 2, Comprehension

Range	Percent		Frequency	
Midpoint	Fall	Spring	Fall	Spring
30	3.64	0.00	4	0
35	1.82	0.91	2	1
40	1.82	3.64	2	4
45	16.36	14.55	18	16
50	20.91	27.27	23	30
55	23.64	34.55	26	38
60	12.73	8.18	14	9
65	9.09	2.73	10	3
70	10.00	8.18	11	9

Frequency counts (N = 110). As indicated in the table above and the chart on the next page and as suggested by the percentage figures, an analysis of the actual number of students achieving scores within each respective midpoint range indicated that more students in the Spring than in the Fall attained scores at the 5th and 6th stanine level. For the Fall, 49 students (23 plus 26) scored within the midpoint ranges of 50 and 55, while in the Spring, 68 students reached these levels (30 plus 38). Some of these numbers may be due to the Fall to Spring drop in scores within the 60 to 70 midpoint ranges at the upper levels (Fall - 35 students, 14 plus 10 plus 11; and Spring - 21 students, 9 plus 3 plus 9). Scores seemed to cluster closer to the mean in the Spring. Gains at lower levels, however, were also a factor in the increase in the number of students performing closer to the mean. While in the Fall, 26 students (4 plus 2 plus 2 plus 18 scored within the midpoint ranges of 30 to 45, in the Spring these numbers decreased to 21 (0 plus 1 plus 4 plus 16), indicating performance gains.

This analysis is confirmed in an examination of the histogram. More than 34 percent of the scores (34.55) fell within the 55th T-score midpoint range which is twice what would be expected compared to the performance of students in the norming group (in which case 17 percent of the scores fall within this range). Comprehension&2 performance at Sun Valley is thus very satisfactory. Perhaps the most telling indicator of the level of performance of Sun Valley students may be obtained by examining scores at the lower end of the continuum. Normally, 40 percent of scores fall within or below the T-score range of 45. At Sun Valley, only 19 percent of the students scored within the 45th stanine or below.



III. Vocabulary and Comprehension Combined

Means and percentages. As indicated by the results of the vocabulary and comprehension subtests analyzed in the preceding discussion, when these scores were combined, scores clustered around the mean, the T-score mean for the Fall being 52.90 and for the Spring, 52.78. A mean falling within the T-score midpoint range of 50 indicates average performance. It is necessary to examine how scores deviate from the mean, however, in order to interpret performance.

In the Fall, almost one-half of the students (19.09 and 28.18 = 47.27 percent) obtained scores that fell within the midpoint ranges of 50 and 55 (average and above). Performance was similar in the Spring, with 48.18 percent (29.09 and 19.09) of the students performing at average or above average levels. Normally, 37 percent of the students perform at these levels, indicating that the reading achievement of students at Sun Valley is well above the national norms.

The analyses of performance above and below these levels confirms the separate analysis of vocabulary and comprehension performance. In the Spring, 25.45 percent (11.82 plus 8.18 plus 5.45 of the students scores fell within the midpoint ranges of 60 and 70. This performance is remarkably similar to the Fall performance of 27.28 (14.55 plus 4.55 plus 8.18). These percentages are higher than the normal distribution in which 23 percent of the scores fall into these ranges.

Most importantly, however, students who were low-achievers according to the Fall test results (scoring between the 30th and 40th midpoint ranges) attained higher scores in the Spring. While almost 11 percent of the students obtained scores within these midpoint ranges in the Fall (3.64 plus 0.91 plus 6.36 = 10.91) fewer scores, 6.37 percent (0.00 plus 1.82 plus 4.55), fell within these ranges in the Spring. These figures are shown in the accompanying table.

T - Scores for Grade 2, Combined

Range	Percent		Frequency	
Midpoint	Fall	Spring	Fall	Spring
30	3.64	0.00	4	0
35	0.91	1.82	1	2
40	6.36	4.55	7	5
45	14.55	20.00	16	22
50	19.09	29.09	21	32
55	28.18	19.09	31	21
60	14.55	11.82	16	13
65	4.55	8.18	5	9
70	8.18	5.45	9	6

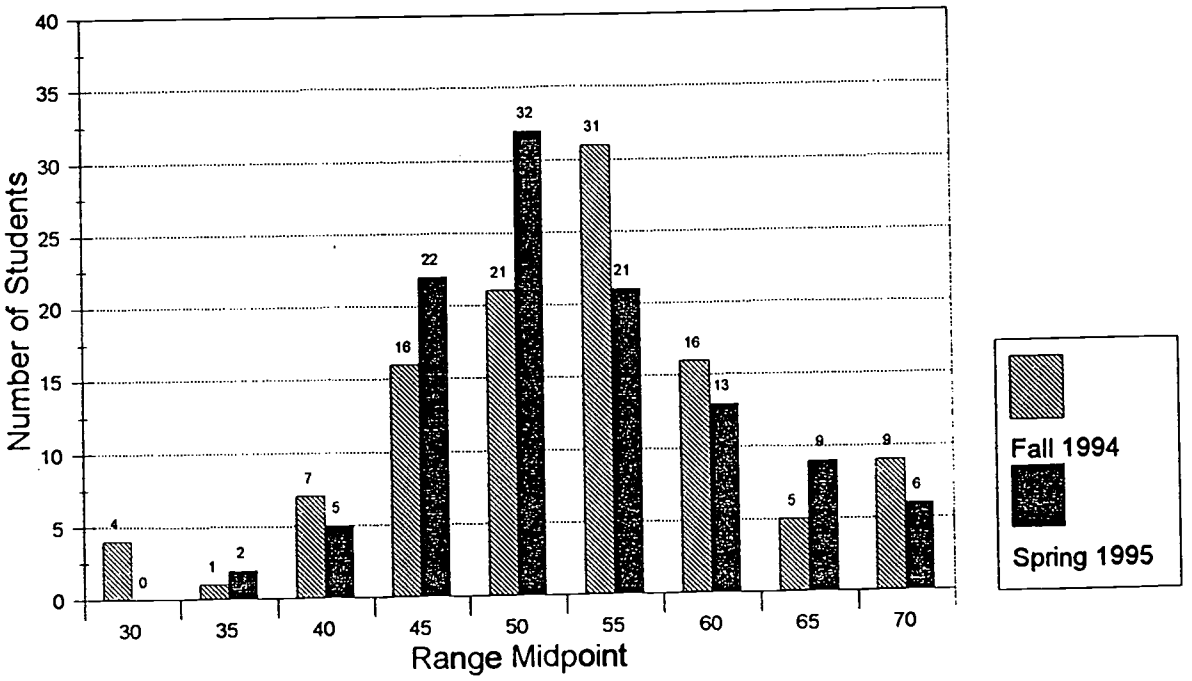
Frequency counts (N = 110). An examination of the preceding table and the histogram, reveals that in the Fall, 82 of the 110 students (21 plus 31 plus 16 plus 5 plus 9) or approximately 75 percent (19.09 plus 28.18 plus 14.55 plus 4.55 plus 8.18 = 74.55) of the students scored at average levels or above in terms of reading

= 74.55) of the students scored at average levels or above in terms of reading performance. In the Spring, achievement was parallel when approximately 74 percent of the students (29.09 plus 19.09 plus 11.82 plus 8.18 plus 5.45 = 73.53) obtained average or above average scores. Compared to the distribution of scores in a normal curve, in which case one would expect only 60 percent of the students to achieve in this range, the reading achievement of students at Sun Valley is highly satisfactory.

Performance was positively skewed with 21 students in the Fall performing within the 50th midpoint range, 31 within the 55th midpoint range, 16 within the 60th, 5 within the 65th and 9 within the 70th. In the Spring, 32 students scored within the 50th midpoint range, 21 within the 55th midpoint range, 13 within the 60th T-score midpoint range, 9 within the 65th and 6 within the 70th. At the other end of the continuum, 4 students who scored within the 30th midpoint range in the Fall improved their performance. While 1 student's score fell within the 35 midpoint range in the Fall, 2 scores fell into this range in the Spring. The scores of 7 students fell within the 40th midpoint range in the Fall, but only 5 in the Spring, showing positive overall gains.

The histogram depicting the combined vocabulary and comprehension frequencies confirms the analysis of both the percentage of scores falling within each range and the frequency counts. Positive shifts in performance are evident, especially at midpoint where from Fall to Spring movements were apparent in the 30th, 35th, 45th, 50th and 65th midpoint ranges.

T - Scores for Grade 2 Combined Score Fall/Spring



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Statistical Comparisons from Fall to Spring

Vocabulary. In order to discover whether the gains evident in the foregoing descriptive analysis were statistically significant, comparisons were made between Spring and Fall vocabulary performance, using grade equivalent as opposed to T-scores. There were some difficulties in instituting this analysis at the Grade Two level, because two of the classes at the Grade Two level had French immersion programs. In the Fall, The Level A test intended for Grade 1 students was administered to these classes. "Out of level" norms were therefore used to establish performance levels. "Out-of level" norm tables do not permit the transformation of raw scores into grade equivalent scores. The scores of the French immersion students were therefore excluded from the Grade Two Spring and Fall comparisons, causing a corresponding drop in the number of scores for analysis: from 110 to 76. Matched-pairs *t*-tests were used to carry out the comparisons between Spring and Fall performance.

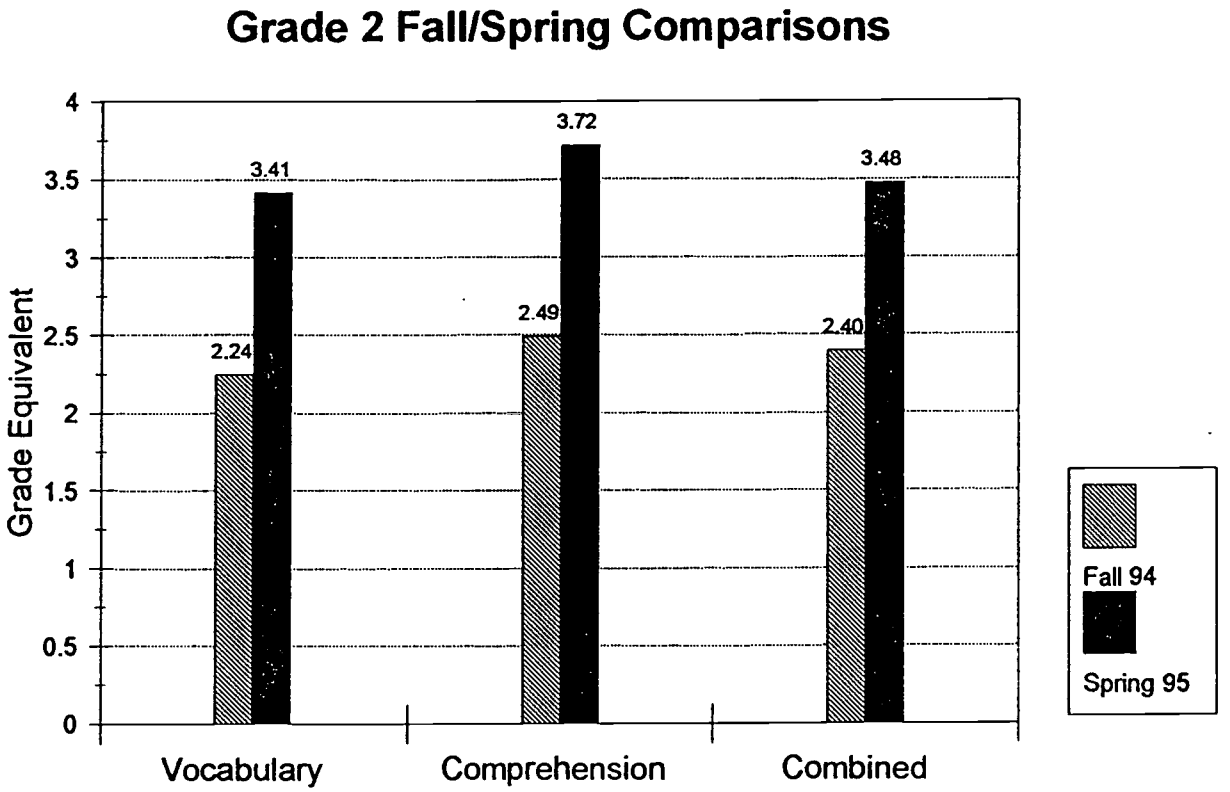
As an aside. it is interesting to note that the analysis of the Fall test results revealed that many students in the French Immersion classes read very well. In fact many students reached ceiling levels, answering all test items correctly. In the Spring, therefore, all Grade Two students received level B of the Gates-MacGinitie, the test appropriate for their grade level placement.

Within the above limitations, and using the scores of 76 students in the regular program, as shown in the histogram on the next page, grade equivalent mean scores for vocabulary increased form 2.24 in the Fall to 3.41 in the Spring. The gains in meaning vocabulary hinted at in the descriptive analysis were statistically significant ($t = 14.07$, $p < .001$), confirming that overall gains were made in meaning vocabulary performance between the Fall and Spring test periods.

Comprehension. The statistical analysis substantiates that significant gains in reading comprehension occurred between the Fall and Spring assessments. As noted earlier, only the scores of students in the regular program were used in the following statistical comparisons because Level A of the Gates-MacGinitie for use with Grade One students, rather than Level B (Grade Two), was administered in the Fall to students in the French immersion classes. Findings revealed that similarly, as was the case with meaning vocabulary, mean scores improved from 2.49 to 3.72 across test times. Matched pairs *t*-tests that compared Fall and Spring comprehension performance indicated that the achievement gains, depicted in the histogram, were statistically significant ($t = 10.2$, $p > .001$).

Vocabulary and comprehension scores combined. When vocabulary and comprehension scores were combined and transformed into grade equivalent scores, means were 2.40 and 3.48 in the Fall and Spring respectively. When these Spring and

Fall grade equivalent scores were statistically compared, results indicated that students made significant gains over the course of the school year (t = 15.43, p<.001).



Comparisons between French Immersion and Regular Stream Performance

Vocabulary. Grade equivalent scores were also used to assess whether the Spring performance of students in the French immersion program was equal to that of the students in the regular program. Two sample t-tests assuming unequal variances were used to carry out this analysis. There were 34 students in the French Immersion program and 76 in the regular stream, with the mean grade equivalent score for the 34 French immersion students for vocabulary being 3.03 and for the 76 students in the regular stream, 3.41. The results of the analysis indicated that there were no statistical differences between the performance of students, (t = 1.8, p >.05).

Comprehension. Two sample *t*-tests assuming unequal variances were used to assess whether the Spring comprehension performance of students in French immersion program was equal to that of the students in the regular program, the number of students in each group being: French immersion program, 34, regular stream, 76. The respective comprehension means for each group of students were: 3.46 and 3.72. The results of the statistical analysis indicated that there were no statistical differences between the performance of French immersion and regular stream students (t = 1.19, p >.05).

Vocabulary and comprehension scores combined. Two sample *t*-tests assuming unequal variances were used to assess whether the Spring performance of students in the French immersion program was equal to that of the students in the regular program. There were 34 students in the French Immersion program (Mean = 3.17) and 76 students (Mean = 3.48) in the regular stream. Findings showed that there were no statistical differences between these means (t = 1.6, p >.05).

Summary and Discussion

In addition to the most immediate purposes underlying the administration of the Gates-MacGinitie standardized test of validating informal reading inventory interpretations and determining which students were reading at, above and below grade placement level, further objectives were to: assess gains in reading achievement between the Fall and the Spring for the 1994-95 school term; compare the reading performance of students at Sun Valley with the reading performance of students in the norming group; and based upon these results, validate the instructional program at Sun Valley school. Many French immersion teachers were concerned that their English speaking students in the immersion program would not make the same achievement gains as their counterparts in the regular program because the French immersion students receive only one hour of instruction in English language arts each day. Another objective of the standardized test evaluation project therefore was to determine whether there were any significant differences between the performance of students in the French immersion program and the performance of students in the regular stream. Findings indicated that for students in Grade Two:

1. There were statistically significant gains in reading achievement levels from the Fall to the Spring, suggesting that as a group, Grade Two students at Sun Valley are making very satisfactory progress in reading.

2. Overall, the dispersion of the combined vocabulary and comprehension scores reflects a positively skewed distribution, suggesting that the Grade Two students at Sun Valley are reading above the national norm.

This finding was supported by the descriptive analysis which examined the distribution of scores and compared the performance of Sun Valley students to the performance of students in the norming group. While Fall vocabulary performance exceeded national norms, there was substantial growth from Fall to Spring at the lower end of the continuum which contributed to the gains. In the Spring, approximately only one-third (33 percent) of the students scored below the 45th T-score midpoint range where generally 40 percent of the students are expected to score.

For comprehension, achievement gains were most noticeable within the 50th and 55th midpoint ranges. Thus reading comprehension performance in which 62 percent of the students scored within the 50th and 55th midpoint ranges (when in a normal population 37 percent of the students would fit into this range) validates the Grade Two instructional program at Sun Valley. While the reading achievement gains for students at lower levels was most satisfying and suggests that instruction meets the needs of low-achievers, the drop in performance from Fall to Spring at upper levels indicates perhaps that the best students may not be sufficiently challenged.

3. The analysis of the Spring performance of students in the regular and the French immersion programs showed that there were no significant differences in either vocabulary, comprehension or vocabulary and comprehension combined. The performance of the English students in the French immersion program was equal to that of their peers in the regular program.

Grade Three

As described earlier, T-scores were used to analyze the results of the standardized testing, beginning with the results of the vocabulary subtest, then comprehension and finally, both scores combined. Means and percentages were examined first, followed by frequency counts. To identify gains, on each subtest matched pairs *t* -test comparisons were carried out between Spring and Fall grade equivalent scores in order to establish whether performance differences were statistically significant. *T*-test comparisons between the achievement of students in the French immersion and regular program using Spring achievement scores were also conducted.

I. Vocabulary

Means and percentages. A T-score of 50 means that the student's score was similar to the average score attained by students in the norming group. The mean or average score for grade three students for the Spring test period was 52.73. This compares with the average T-score obtained in the Fall of 51.69 and indicates that, relative to the students in the norming group, the students at Sun Valley are progressing at a rate that is representative of students at this grade level.

To describe vocabulary performance in more depth, the percent of scores falling within each range was examined. As indicated in the accompanying table on the following page, in the Fall 23.08 percent of the students obtained a T-score within a midpoint range of 50, 25.27 percent within a midpoint range of 55, and 16.48 percent within a midpoint range of 60. In the Spring, there was a shift within these ranges with more students' scores falling within the midpoint range of 50 and 60 than previously (27.47 percent of the students obtaining scores within the midpoint range of 50, and 28.57 percent within a midpoint range of 60, but 17.58 percent within a midpoint range of 55). Vocabulary performance at Sun Valley exceeded Canadian norms, however with the percent of scores falling within the midpoint ranges of 50, 55 and 60 being: Fall 64.83 (23.08 plus 25.27, plus 16.48); and Spring 73.62 (27.47 plus 17.58 plus 28.57); compared to the Canadian norms of 49 percent (20 plus 17 plus 12). When these percentages were compared to the normal distribution, findings show that the vocabulary knowledge of Grade Three students at Sun Valley is exceptionally high.

Normally, 11 percent of the scores in a distribution fall within the ranges of 30 and 35. In the Fall, 7.69 percent of the students' scores at Sun Valley fell within this range. In the Spring, however, this number dropped to 3.30 percent (1.10 plus 2.20), suggesting that there were gains in the vocabulary knowledge of Grade Three students at Sun Valley and that, again, vocabulary knowledge exceeds the national norms. These figures are presented in the table on the next page.

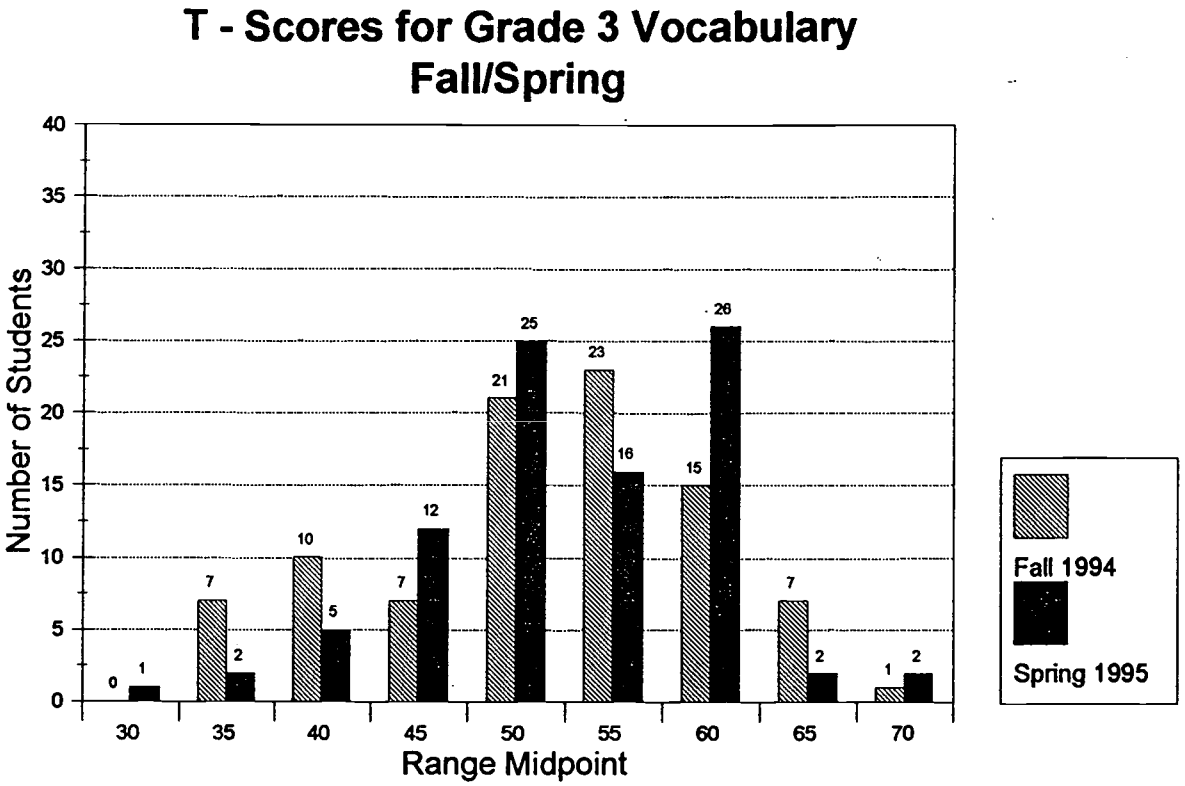
T - Scores for Grade 3, Vocabulary

Range Midpoint	Percent		Frequency	
	Fall	Spring	Fall	Spring
30	0.00	1.10	0	1
35	7.69	2.20	7	2
40	10.99	5.49	10	5
45	7.69	13.19	7	12
50	23.08	27.47	21	25
55	25.27	17.58	23	16
60	16.48	28.57	15	26
65	7.69	2.20	7	2
70	1.10	2.20	1	2

Frequency counts (N = 91). As indicated in the accompanying table, an analysis of the actual number of students achieving scores within each respective midpoint range indicated that more students in the Spring than in the Fall attained scores at the 5th and 7th stanine levels. For the Fall, 44 students (21 plus 23) scored within the midpoint ranges of 50 and 55, and 15 in the midpoint range of 60 (7th stanine). In the Spring, 61 of the 91 students or approximately 67 percent reached these levels (25 plus 16 plus 26). Thus while in the Fall scores were more broadly distributed, in the Spring, scores seemed to centre at, and just above, the mean.

While in the Fall, 8 students (7 and 1, respectively) ranked in the 8th or 9th stanine (midpoint ranges of 65 and 70), in the Spring these numbers fell somewhat (2 at the 65th, and 2 at the 70th midpoint level). The higher mean performance in the Spring seemed to be accounted for in gains at lower levels. While in the Fall, 17 students (0 plus 7 plus 10) scored within the midpoint ranges of 30 to 40, in the Spring these numbers fell to 8 (1 plus 2 plus 5).

This analysis is confirmed in an examination of the histogram. While in the Fall the scores of 15 students fell within the 60th midpoint range, in the Spring, this number rose to 26. Similarly, in the Fall 34 students scored within the 50th and 55th midpoint range (21 plus 13) while in the Spring, 41 (25 plus 16) scored within these levels. When performance at the lower end of the continuum was examined, there was a positive change. In the Fall, 17 students scored within the midpoint ranges of 40 or below (3rd stanine or below), but in the Spring, this number decreased to 8 (by more than half). Normally, 23 percent of scores fall within or below the T-score range of 40. At Sun Valley in the Spring, only 9 percent (8.79) of the students scored within the 3rd stanine or below, confirming that the vocabulary knowledge of Sun Valley Grade Three students is above the national average.



II. Comprehension

Means and percentages. With a T-score of 50 indicating average performance, the mean performance for comprehension in the Fall was 54.23 and in the Spring, 53.82, suggesting that reading comprehension achievement for Sun Valley students is above the national average.

A closer examination of the percent of scores within each midpoint range shown in the table on the next page suggested, however, that as a group, students at Sun Valley seemed to be reading at higher levels. More students were performing in the midpoint ranges of 50 and 55 in the Spring than in the Fall (Spring: 28.57 plus 23.08 = 51.65; Fall: 23.08 plus 14.29 = 37.55). The most noticeable difference between the Spring and Fall performance seemed to be in the 55th (6th stanine) midpoint range. In the Fall, 14.29 percent of the scores fell into this category while in the Spring, the percentage increased to 23.08. High performance levels at the upper end of the continuum were also maintained across test times from Fall to Spring with 25.27

percent of the scores falling within the 60th midpoint range (7th stanine level) in the Fall and 25.27 percent of the scores in this range in the Spring.

What also seemed to account for the gains between Spring and Fall performance in addition to the increases at the 55th midpoint range was the increase in achievement at lower levels. While in the Fall approximately 22 percent (1.10 plus 2.20 plus 5.49 plus 13.19 = 21.98.) of the scores fell within the midpoint ranges of 30 to 45; in the Spring performance improved with less than 16 percent (0 plus 3.30 plus 2.20 plus 9.89 = 15.39) of the scores falling within these lower ranges. In a normal distribution, 40 percent of the scores fit into these ranges. There is a substantial difference between 16 and 40 percent, indicating that compared to the national norms, the overall comprehension performance of Grade Three students at Sun Valley is highly satisfactory.

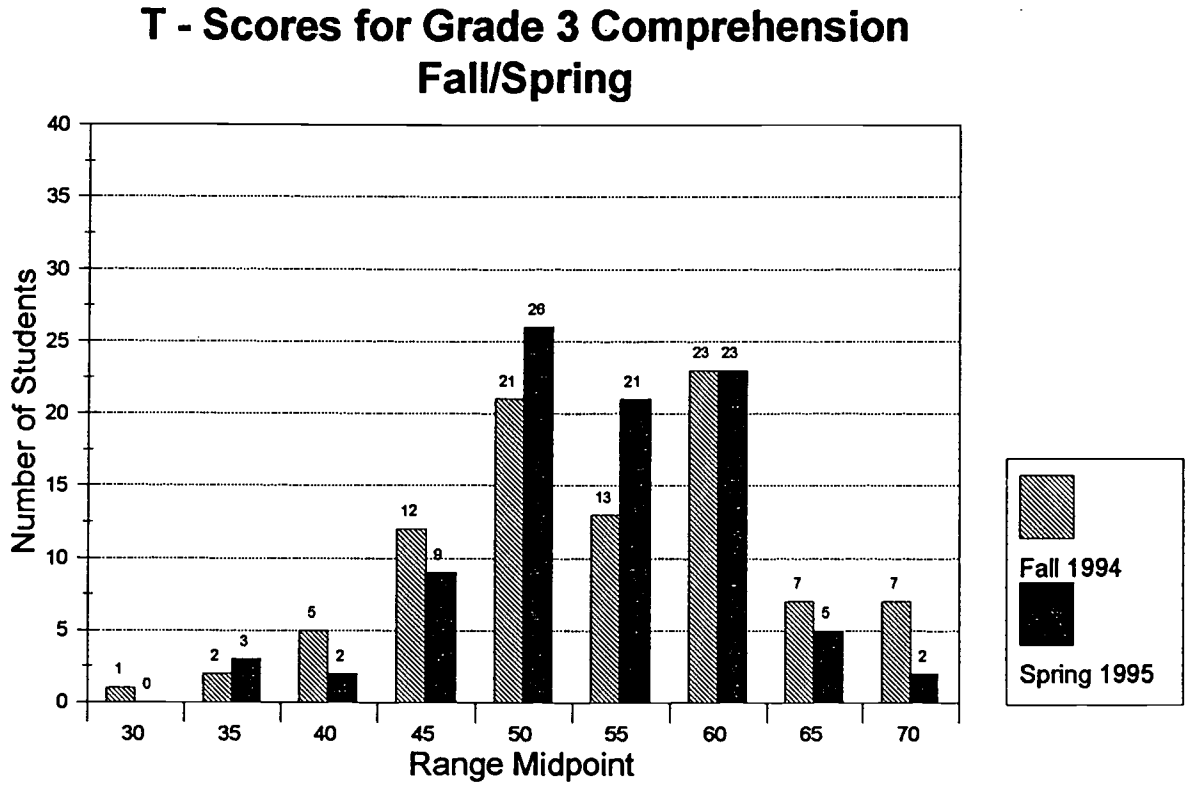
T - Scores for Grade 3, Comprehension

Range	Percent		Frequency	
Midpoint	Fall	Spring	Fall	Spring
30	1.10	0.00	1	0
35	2.20	3.30	2	3
40	5.49	2.20	5	2
45	13.19	9.89	12	9
50	23.08	28.57	21	26
55	14.29	23.08	13	21
60	25.27	25.27	23	23
65	7.69	5.49	7	5
70	7.69	2.20	7	2

Frequency counts (N = 91). As indicated in the accompanying table and the histogram on the next page, an analysis of the actual number of students achieving scores within each respective midpoint range indicated that more students in the Spring than in the Fall attained scores at the 5th or 6th stanine level. In the Fall, 34 students (21 plus 13) scored within the midpoint ranges of 50 and 55, while in the Spring, 47 students reached these levels (26 plus 21). Scores seemed to cluster closer to the mean in the Spring. While in the Fall, 37 students ranked in the 7th, 8th or 9th stanine (midpoint ranges of 60, 65 and 70), in the Spring 30 students reached this level (23, 5 and 2 at the 60th, 65th and 70th midpoint T-score ranges).

Performance gains at lower levels also contributed to the high mean performance, however. While in the Fall, 20 students (1 plus 2 plus 5 plus 12 scored within the midpoint ranges of 30 to 45, in the Spring these numbers fell to 14 (0 plus

3 plus 2 plus 9). This analysis is confirmed in an examination of the histogram. More than 23 percent of the scores (23.08) fell within the 55th T-score midpoint range which when compared to the performance of students in the norming group where usually 17 percent of the scores fall, represents very satisfactory performance. Adding to this, only 15 percent of the scores fell in the 4th stanine and below (45th midpoint range and below) whereas normally 40 percent of scores fall within or below this range.



III. Vocabulary and Comprehension Combined

Means and percentages. As indicated by the results of the vocabulary and comprehension subtests analyzed in the preceding discussion, when these scores were combined, the results indicated that scores centred around the mean, the T-score mean for the Fall being 52.54 and for the Spring, 52.95. A mean falling within the T-score midpoint range of 50 indicates average performance. It is necessary to examine how scores are distributed around this mean, however, to interpret performance gains.

In the Fall, almost 40 percent of the students (16.48 and 23.08 = 39.56 percent) obtained scores that fell within the midpoint ranges of 50 and 55. Performance within these ranges was higher in the Spring, with 55.04 percent (26.37 and 28.57) of the

students performing at average or above average levels. Normally, 37 percent of the students perform at these levels, indicating that the reading achievement of students at Sun Valley is substantially above the national average.

Approximately 25 percent (24.18) of the Fall scores fell within the 60th midpoint range or 7th stanine while almost 20 percent (19.78) of the Spring scores fell in this range, although these differences may not be statistically significant. Students at Sun Valley outperformed students in the norming group, however, because usually only 12 percent of the total number of scores fall within the 60th midpoint range.

An analyses of performance below these average and high levels confirms the results of the vocabulary and comprehension performance. Students who were low-achievers according to the Fall test results (scoring between the 30th and 40th midpoint ranges) attained higher scores in the Spring. While just over 14 percent of the students (14.28 - 6.59 plus 6.59 plus 1.10) obtained scores within these midpoint ranges in the Fall, fewer scores (7.69 percent - 0.00 plus 5.49 plus 2.20) fell within these ranges in the Spring. These figures are shown in the accompanying table.

T - Scores for Grade 3, Combined

Range Midpoint	Percent		Frequency	
	Fall	Spring	Fall	Spring
30	1.10	0.00	1	0
35	6.59	5.49	6	5
40	6.59	2.20	6	2
45	13.19	10.99	12	10
50	16.48	26.37	15	24
55	23.08	28.57	21	26
60	24.18	19.78	22	18
65	7.69	2.20	7	2
70	1.10	4.40	1	4

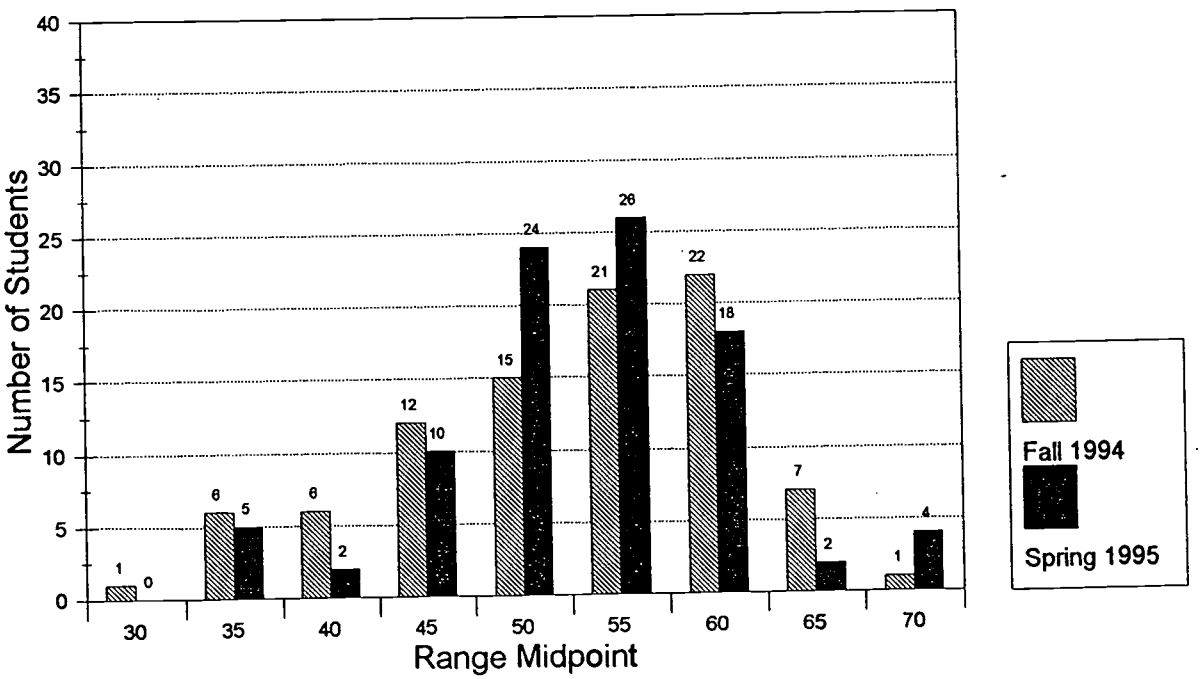
Frequency counts (N = 91). An examination of the accompanying tables and the histograms, reveals that in the Fall, 66 students (15 plus 21 plus 22 plus 7 plus 1) or approximately 73 percent (16.48 plus 23.08 plus 24.18 plus 7.69 plus 1.10 = 72.53) of the students scored at average levels or above in terms of reading performance. In the Spring, achievement was higher with approximately 81 percent of the students (26.37 plus 28.57 plus 19.78 plus 2.20 plus 4.40 = 81.32) obtaining average or above average scores. Compared to the distribution of scores in a normal curve, one would expect only 60 percent of the students to achieve in this range, suggesting that the reading achievement of students at Sun Valley is well above average.

Above the mean, performance was positively skewed with 21 students in the Fall performing within the 55th T-score midpoint range, 22 within the 60th T-score midpoint range, 7 within the 65th and 1 within the 70th. In the Spring, 26 students scored within the 55th T-score midpoint range, 18 within the 60th T-score midpoint range, 2 within the 65th and 4 within the 70th.

At the lower end of the continuum, students who scored within the 30th to 45th midpoint range in the Fall improved their performance. While 1 student's score fell within the 30th midpoint range in the Fall, 0 scores fell into this range in the Spring. The scores of 6 students fell within the 35th midpoint range in the Fall, but only 5 in the Spring. Similarly, 6 students scored within the 40th midpoint range in the fall, but only 2 in the Spring and the numbers scoring in the 45th midpoint range or 4th stanine was reduced from 12 to 10.

An examination of the histogram depicting the combined vocabulary and comprehension performance confirms both the percentage analysis and the frequency counts. A positive shift in performance is evident, especially at midpoint where from Fall to Spring a movement was apparent from the 50th to the 55th midpoint range. As the analysis in the next section indicates, there were statistically significant gains between the Fall and Spring comprehension performance.

T - Scores for Grade 3 Combined Score Fall/Spring

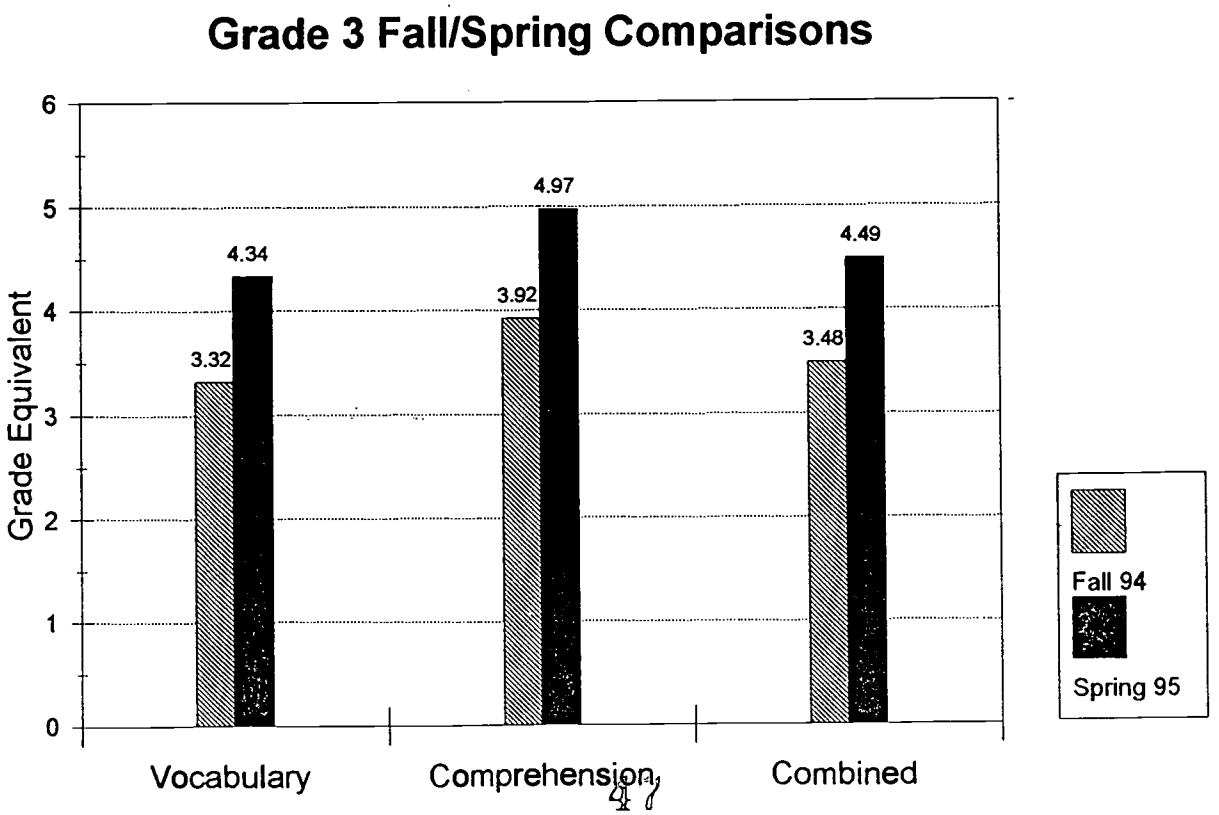


Statistical Comparisons from Fall to Spring

Vocabulary. Mean performance expressed in terms of grade equivalents for vocabulary in the Fall was 3.32. The Spring grade equivalent mean was 4.34. As indicated in the accompanying histogram, when the grade equivalent scores for meaning vocabulary from the fall and spring test times were compared, results indicated statistically significant gains for vocabulary (t = 13.18, p<.001). As indicated by the mean grade equivalent score of 4.34 obtained in May, the Grade Three students at Sun Valley were achieving above grade level.

Comprehension. The average grade equivalent score for the Fall test period was 3.32. This compares to the mean grade equivalent obtained in the Spring of 4.97. Matched t-test comparisons between spring and fall comprehension grade equivalent scores showed statistically significant gains across the year (t = 8.38, p<.001). The grade equivalent mean itself suggests that on average, students in Grade Three at Sun Valley are performing above the national norms.

Vocabulary and comprehension scores combined. When the vocabulary and comprehension subtest scores were combined and transformed into grade equivalent scores, the mean grade equivalent performance for the Fall was 3.48 and for the Spring 4.49. As shown in the accompanying chart, when meaning vocabulary and comprehension scores were combined and grade equivalent scores from the Fall and Spring compared, results showed statistically significant gains from the Fall to the Spring (t = 13.05, p<.001). The grade equivalent means themselves suggest that students at Sun Valley are reading exceptionally well in comparison to the group on which the test was normed.



Comparisons between French Immersion and Regular Stream Performance

Vocabulary. Two sample *t*-tests assuming unequal variances to establish whether the Spring performance of students in the French immersion was equal to that of the students in the regular program were conducted. There was a total of 28 students in the French immersion program with a mean of 4.46 and 63 in the regular stream with a mean of 4.28. No statistically significant differences between the performance of students in the two programs were found (t = .83, p >.05).

Comprehension. In order to determine whether the Spring comprehension performance of students in the French immersion was equal to that of the students in the regular program two sample *t*-tests assuming unequal variances were carried out. The 28 students in the French immersion program obtained a mean grade equivalent score of 5.36. The mean for the 63 students in the regular stream was 4.80. No statistically significant differences were found between the performance of students in the two programs (t = 1.49, p >.05).

Vocabulary and comprehension scores combined. The mean grade equivalent score for the 28 students in the French immersion program in the Spring for vocabulary and comprehension scores combined was 4.69. This compares to the mean for students in the regular program of 4.4. To establish whether the Spring performance of the French Immersion students was equal to that of the students in the regular program, two sample *t*-tests assuming unequal variances were carried out. There were no statistically significant differences found between the performance of students in the two programs (t = 1.49, p >.05).

Summary and Discussion

Among the objectives underlying the administration of the Gates-MacGinitie standardized test were to: validate reading levels determined by the administration of the Sun Valley informal reading inventory selections; identify which students were reading at, above, and below grade level; assess gains in reading achievement between the Fall and the Spring for the 1994-95 school term; compare the reading performance of students at Sun Valley with the reading performance of students in the norming group; and based upon these results, validate the instructional program at Sun Valley school. Another purpose was to establish whether there were any significant differences between the performance of students in the French immersion program and the performance of students in the regular stream. Of concern to many French immersion teachers is whether the reading achievement of students in their classes is equal to the performance of students in the regular program because the French immersion students receive only one hour of instruction in English each day. Findings indicated that:

1. There were statistically significant gains in reading achievement levels from the Fall to the Spring, suggesting that as a group, students at Sun Valley are making very satisfactory progress in reading. This effect was most notable in the comprehension scores. In the Spring the mean reading achievement grade equivalent score for comprehension was 4.97, indicating that the Grade Three students at Sun Valley were, on average, reading almost one year above their grade level placement.

2. Compared to 59 percent in a normal distribution, for meaning vocabulary approximately 74 percent of the students scored within the T-score midpoint ranges of 50, 55 and 60 in the Spring, indicating that the vocabulary achievement of Sun Valley students is exceptionally high. For Spring reading comprehension, almost 85 percent of the students (28.57 plus 23.08 plus 25.27 plus 5.49 plus 2.20 = 84.61) scored at average and above average levels. Both the comprehension and vocabulary scores thus validate the instructional program at Sun Valley. At the very upper end of the continuum, combined vocabulary and comprehension scores fell somewhat. Twenty-two students received scores that ranked in the 7th stanine in the Fall compared to 18 in the Spring, and 7 students received scores that ranked in the 8th stanine in the Fall but only 2 achieved at this level in the Spring. Although these performance differences may not be statistically significant, consideration must be given to making the instructional program more challenging for students who are reading above grade level.

3. When the Spring performance of students in the regular and the French immersion programs were compared, findings indicated that there were no significant differences in either vocabulary, comprehension, or vocabulary and comprehension combined. The performance of the English students in the French immersion program was similar to that of their peers in the regular program.

Grade Four

As proposed, T-scores were used to analyze the results of the standardized test results, beginning with the analysis of vocabulary, followed by comprehension and both scores combined. First mean scores and then percentages were examined, followed by frequency counts. To identify gains, on each subtest matched pairs t -test comparisons were carried out between Spring and Fall grade equivalent scores in order to establish whether differences between mean scores were statistically significant. T-test comparisons between the achievement of students in the French immersion and regular program using Spring grade equivalent achievement scores were also conducted.

I. Vocabulary

Means and percentages. The mean or average score for Grade Four students in vocabulary for the Spring test period was 54.04. This compares with the average T-score obtained in the Fall of 55.24. A T-score of 50 means that the student's score was similar to the average score attained by students in the norming group. Relative to the students in the norming group, the students at Sun Valley are progressing at a rate that is commensurate with students at this grade level. It is also necessary to examine how scores were distributed.

To describe vocabulary performance further, the percent of scores falling within each range were examined. As indicated in the table on the following page, in the Fall 27.63 percent of the students obtained a T-score within a midpoint range of 50, 19.74 percent within a midpoint range of 55, and 28.95 percent within a midpoint range of 60. In the Spring, there was a levelling off within these ranges with fewer students' scores falling within the midpoint range of 50, 55 and 60 than previously (21.05 percent of the students obtaining scores within the midpoint range of 50, and 22.37 percent within a midpoint range of 60, but 21.05 percent within a midpoint range of 55). Vocabulary performance at Sun Valley exceeded Canadian norms, however with the percent of scores falling within the midpoint ranges of 50, 55 and 60 being: Fall 76.32 (27.63 plus 19.74, plus 28.95); and Spring 64.47 (21.05 plus 21.05 plus 22.37). This compares to what would be expected according to the Canadian norms when 49 (20 plus 17 plus 12) percent of the scores would fall within this range. When these results are compared to the normal distribution of scores, the vocabulary knowledge of students at Sun Valley is extremely satisfactory.

When the percentage of scores falling into the lower end of the continuum between the midpoint ranges of 30, 35 and 40 were examined, in the Fall 6.58 percent of scores (1.32 plus 2.63 plus 2.63) fell within these ranges. In the Spring, these figures increased somewhat, with 9.21 percent (0.00 plus 6.58 plus 2.63) of the

students scoring within these ranges. Normally, 23 percent of the scores in a distribution fall within the ranges of 30, 35 and 40, indicating that performance at Sun Valley exceeds national norms.

It is at the upper levels that students made substantial gains, however. In the Fall, only 3.95 percent (2.63 plus 1.32) of the scores fell with the 65th and 70th midpoint ranges. This figure increased to 14.47 percent (6.58 and 7.89) in the Spring however. Normally 11 percent of the scores would fall within these levels, suggesting that overall, the meaning vocabulary achievement of Sun Valley students exceeds that of the students in the norming group.

T - Scores for Grade 4, Vocabulary

Range Midpoint	Percent		Frequency	
	Fall	Spring	Fall	Spring
30	1.32	0.00	1	0
35	2.63	6.58	2	5
40	2.63	2.63	2	2
45	13.16	11.84	10	9
50	27.63	21.05	21	16
55	19.74	21.05	15	16
60	28.95	22.37	22	17
65	2.63	6.58	2	5
70	1.32	7.89	1	6

Frequency counts (N = 76). As indicated in the accompanying table, an analysis of the actual number of students achieving scores within each respective midpoint range supported the percentage analysis which indicated a levelling off in performance at the midpoint levels of 50, 55 and 60. In the Fall, 58 students (21 plus 15 plus 22) attained scores at the 5th, 6th and 7th stanine levels. This number dropped slightly in the Spring when the scores of 49 students (16 plus 16 plus 17) fell into this category. These numbers may not be statistically significant.

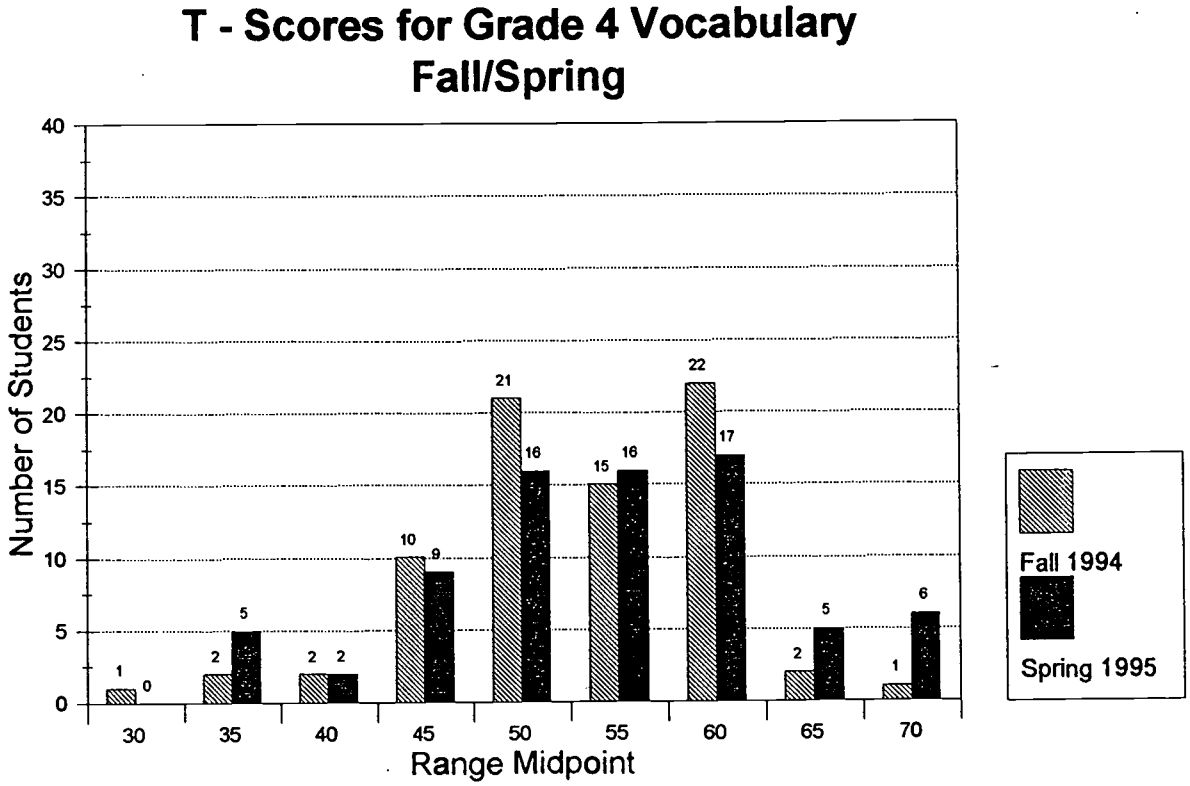
As was evident in the percentage analysis, a jump in scores occurred from the Fall to the Spring at the upper end of the continuum. Whereas in the Fall the scores of only 3 students (2 plus 1) fell into the midpoint ranges of 65 and 70, in the Spring 11 students (5 plus 6) reached these levels, which corresponds to the 8th and 9th stanines and represents outstanding performance.

The number of scores at the lower end of the continuum remained relatively stable across test times. In the Fall, the scores of 15 students (1 plus 2 plus 2 plus 10) scored within the midpoint ranges of 30, 35, 40 and 45. This was very similar to the Spring results when the scores of 16 students fell within these ranges.

Thus for vocabulary performance, in the Spring scores seemed to level off and

Thus for vocabulary performance, in the Spring scores seemed to level off and centre at the midpoint of 50, 55, and 60 which was similar, but somewhat lower in terms of numbers to the clustering which occurred in the Fall. What was different in the Spring, however, was that 11 students (5 plus 6) had scores that fell within the midpoint levels of 65 and 70. In the Fall, only 3 students performed within this range. Overall, performance was above the mean. Unlike performance at the Grade Three level in which there was an increase in scores at the lower levels that seemed to account for the increase in performance, at the Grade Four level, scores at the upper levels increased and accounted for the overall vocabulary gains.

This analysis is confirmed in an examination of the histogram. Compared to the Fall performance, in the Spring there seemed to be levelling off in performance within the ranges from 50 to 55 to 60, but an increase was evident within the midpoint ranges of 65 and 70. In a normal distribution, 60 percent of the scores would fall within the midpoint ranges of 50 to 70. At Sun Valley in the Spring, almost 79 percent of the students (21.05 plus 21.05 plus 22.37 plus 6.58 plus 7.89 = 78.94) scored within these ranges, representing outstanding performance.



II. Comprehension

Means and percentages. With a T-score of 50 indicating average performance, the mean performance for comprehension in the Fall was 57.16 and in the Spring, 56.50, suggesting that reading comprehension achievement for Sun Valley students is above the national average.

A closer examination of the percent of scores within each midpoint range shown in the following table confirmed that as a group, students at Sun Valley were reading at a higher level. In the Fall, 76.32 percent of the students (26.43 plus 23.68 plus 28.95 plus 3.95 plus 2.63) obtained scores at the average level (midpoint range of 50) or above (midpoint ranges of 55, 60, 65 and 70. Performance in the Spring was similar, but in the Spring 88.16 percent of the students (19.74 plus 23.68 plus 28.95 plus 1.34 plus 14.47) performed within this range, with a jump being evident at the midpoint range of 70 which accounted for 14.47 percent of the scores.

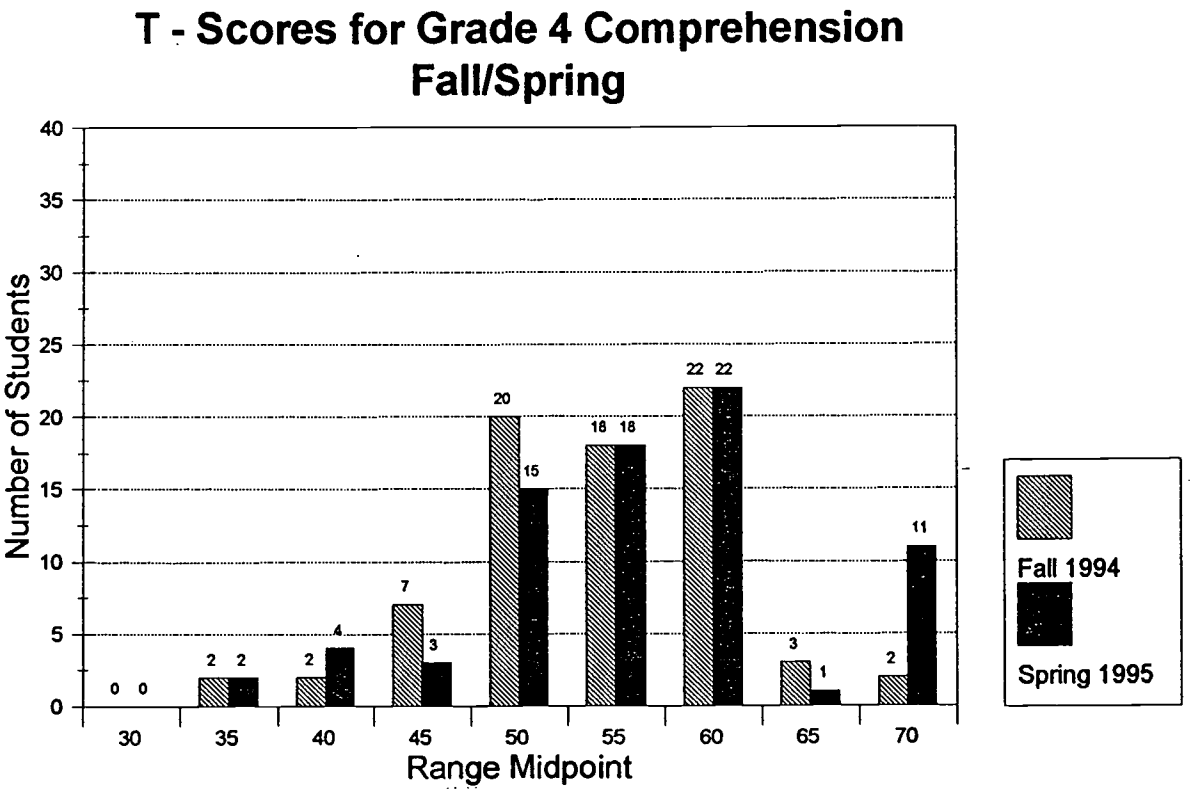
In addition, scores at the lower end of the continuum also increased from the Fall to the Spring test period. While in the Fall approximately 15 percent (0.00 plus 2.63 plus 2.63 plus 9.21 = 14.47.) of the scores fell within the midpoint ranges of 30 to 45; in the Spring performance improved with approximately 12 percent (0 plus 2.63 plus 5.26 plus 3.95 = 11.84) of the scores falling within these lower ranges. In both the Fall and the Spring, performance was substantially above the national norms. Generally, 40 percent of the scores fall within these ranges. Thus the Grade Four students at Sun Valley maintained their superior performance from the Fall to the Spring.

T - Scores for Grade 4, Comprehension

Range	Percent		Frequency	
Midpoint	Fall	Spring	Fall	Spring
30	0.00	0.00	0	0
35	2.63	2.63	2	2
40	2.63	5.26	2	4
45	9.21	3.95	7	3
50	26.32	19.74	20	15
55	23.68	23.68	18	18
60	28.95	28.95	22	22
65	3.95	1.32	3	1
70	2.63	14.47	2	11

Frequency counts (N = 76). As indicated in the above table and the histogram on the next page, the analysis of the actual number of students achieving scores within each respective midpoint range indicated that the number of students obtaining scores within the midpoint ranges of 55 and 60 remained exactly the same. Where gains in performance were most evident across test times was at the 70th midpoint level. Whereas in the Fall 2 students obtained scores at this level (9th stanine), in the Spring 11 students scored in the 70th midpoint range.

Scores at the lower end of the continuum remained stable. In the Fall, the scores of 11 students (7 plus 2 plus 2 plus 0) fell within the midpoint ranges below 45. In the Spring, the scores of 9 students (3 plus 4 plus 2 plus 0) fell within these ranges. As suggested in the analysis of means and percentages, the comprehension performance of Grade Four students at Sun Valley is exceptionally high.



III. Vocabulary and Comprehension Combined

Means and percentages. As indicated by the results of the vocabulary and comprehension subtests analyzed in the preceding discussion, when these scores were combined, scores clustered around the mean, the T-score mean for the Fall being 56.21 and for the Spring, 54.86. A mean falling within the T-score midpoint range of 50 indicates average performance. How scores are distributed also needs to be examined.

In general, the majority of the students performed at above average levels (within the midpoint ranges of 55, 60, 65 and 70). There was an increase from the Spring to the Fall in terms of the percentage of students who scored within the midpoint ranges of 65 and 70. In the Fall, slightly over 76 percent of the students (25.00 plus 31.58 plus 19.74 = 76.32) obtained scores that fell within the midpoint ranges of 50, 55 and 60. Performance within these ranges in the Spring was remarkably similar, with just over 67 percent of the students (17.11 plus 30.26 plus 19.74) performing at these average and above average levels. Compared to students in the norming group, in which case one would expect 49 percent of the students to perform within these levels, performance at Sun Valley is well above average.

What seemed to account for the most gains in performance across test times was that approximately 16 percent of the scores (7.89 plus 7.89 = 15.78) in the Spring, compared to 7 percent (2.63 plus 3.95) in the Fall, fell within the midpoint ranges of 65 and 70. In a normal distribution, 11 percent of the scores would fall within these parameters, again suggesting that the reading performance of Grade Four students at Sun Valley is exceptional.

An analyses of performance at the lower end of the continuum confirms this interpretation. Although in both the Fall and the Spring 17.11 percent of the scores fell within the midpoint ranges of 45 and below, there were variations in the pattern of scores. In the Fall, no scores fell within the midpoint range of 30, 5.26 within the midpoint range of 35, only 1.32 percent within a midpoint range of 40 and 10.53 within the midpoint range of 45. In the Spring, again no scores fell within the midpoint range of 30, but 3.95 percent fell within the midpoint range of 35, 3.95 within the midpoint range of 40 and 9.21 percent within the midpoint range of 45. This analysis confirms the results of the vocabulary and comprehension performance. Compared to the performance of students in the norming group, in which case 40 percent of the scores fall within these ranges, the performance at Sun Valley is exceptional. These figures are shown in the accompanying table.

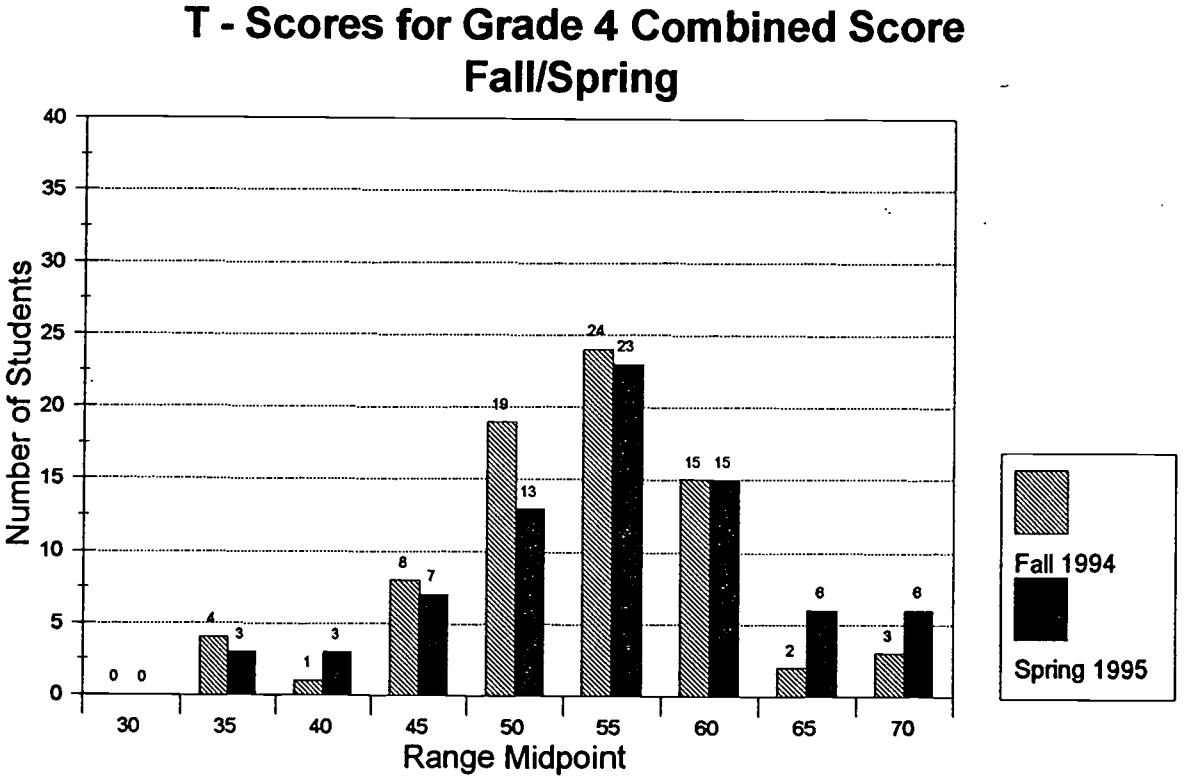
T - Scores for Grade 4, Combined

Range Midpoint	Percent		Frequency	
	Fall	Spring	Fall	Spring
30	0.00	0.00	0	0
35	5.26	3.95	4	3
40	1.32	3.95	1	3
45	10.53	9.21	8	7
50	25.00	17.11	19	13
55	31.58	30.26	24	23
60	19.74	19.74	15	15
65	2.63	7.89	2	6
70	3.95	7.89	3	6

Frequency counts (N = 76). An examination of the accompanying tables and the histogram confirms the results revealed by analyzing the means and percentages. Performance was relatively stable from the Fall to the Spring with 19 students compared to 13 obtaining scores within the midpoint range of 50; 24 compared to 23 obtaining scores within the midpoint range of 55; and 15 students in both the Fall and Spring obtaining scores within the midpoint range of 60. It was at the 65th and 70th midpoint ranges that the majority of gains occurred. In the Spring, 6 students compared to 2 in the Fall obtained scores that fell within the midpoint range of 65, and 6 students compared to 3, obtained scores that fell within the midpoint range of 70.

At the lower end of the continuum, in both the Fall and the Spring, 13 students scored within the midpoint ranges of 35 to 40. No students' scores fell within the midpoint range of 30 in either the Fall or the Spring. While in the Fall the scores of 4 students fell within the midpoint range of 35, only 3 students' scores fell within this range in the Spring. Only one score fell within the midpoint range of 40 in the Fall, but in the Spring, 3 scores fell within this range. While 8 scores fell within the midpoint range of 45 in the Fall, in the Spring 7 scores fell within this range.

An examination of the Spring histogram shows that performance was positively skewed with 50 of the 76 students performing within the 55th T-score midpoint range or above (23 plus 15 plus 6 plus 6). Thirteen of the 76 students scored at average levels (within the midpoint range of 50). Less than 20 percent (17.11) scored below average, suggesting that compared to the students in the norming group, students at Sun Valley are reading exceptionally well. The histogram depicting the combined vocabulary and comprehension performance confirms both the percentage analysis and the frequency counts. A positive shift in performance is evident from Fall to Spring at the upper levels.



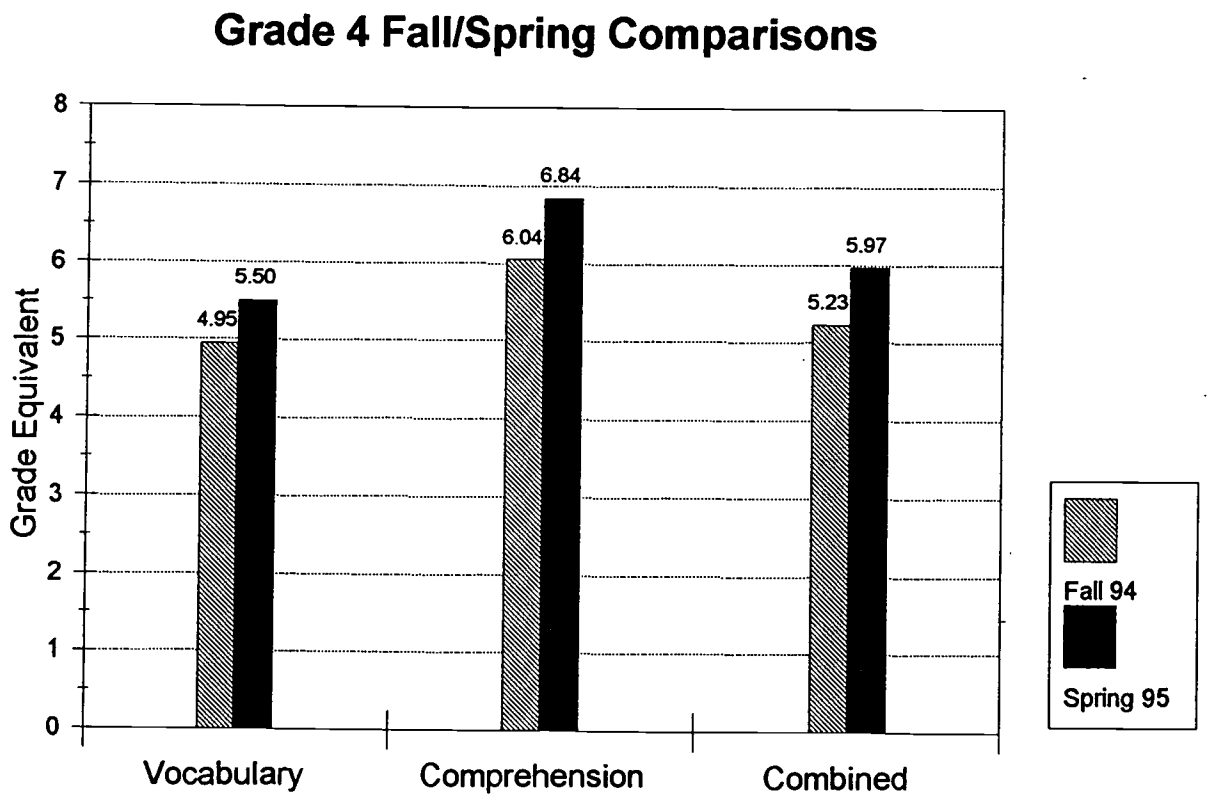
Statistical Comparisons from Fall to Spring

Vocabulary. When the vocabulary and comprehension subtest scores were combined and transformed into grade equivalent scores, the mean grade equivalent performance for the Fall was 4.95 and for the Spring 5.50. As shown in the accompanying chart, when meaning vocabulary scores were transformed into grade equivalents and performance from the Fall and Spring compared, results showed statistically significant gains from the Fall to the Spring (t = 3.09, p<.05). The grade equivalent means themselves suggest that students at Sun Valley are reading very well in comparison to the group on which the test was normed.

Comprehension. When the comprehension subtest scores were transformed into grade equivalent scores, the mean grade equivalent performance for the Fall was 6.04 and for the Spring 6.84. As shown in the accompanying chart, when Fall and Spring comprehension performance was compared, results showed statistically significant gains from the Fall to the Spring (t = 3.07, p<.05). The grade equivalent means themselves (6.04 and 6.84) suggest that students at Sun Valley are reading very well

in comparison to the group on which the test was normed.

Vocabulary and comprehension scores combined. When the vocabulary and comprehension subtest scores were combined and transformed into grade equivalent scores, the mean grade equivalent performance for the Fall was 5.23 and for the Spring 5.97. As shown in the accompanying chart, when meaning vocabulary and comprehension scores were combined and grade equivalent scores from the Fall and Spring compared, results showed statistically significant gains from the Fall to the Spring (t = 7.06, p<.001). The grade equivalent means themselves suggest that in comparison to the norming group, students at Sun Valley are reading well above expected levels.



Comparisons between French Immersion and Regular Stream Performance

Vocabulary. When the Spring vocabulary scores were transformed into grade equivalents, the mean performance for the 33 French Immersion students was 5.45. This compares to the mean for the 43 students in the regular program of 5.54. The results of the two sample t-tests assuming unequal variances indicated that there were

no statistically significant differences between the performance of students in the two programs (t = .24, p >.05).

Comprehension.The mean performance for the 33 French Immersion students in comprehension, expressed in terms of grade equivalent scores, was 6.39. This compares to the comprehension grade equivalent mean for students in the regular stream of 7.18. The results of the two sample t-tests assuming unequal variances demonstrated that there were no statistically significant differences between the performance of students in the two programs (t = 1.43, p >.05).

Comprehension and vocabulary scores combined. When the Spring vocabulary and comprehension scores were combined and transformed into grade equivalents, the mean performance for the 33 French Immersion students was 5.8. This compares to the mean for the 43 students in the regular program of 6.07. The results of the two sample t-tests assuming unequal variances indicated again that there were no statistically significant differences between the performance of students in the two programs (t = .62, p >.05).

Summary and Discussion

There were three purposes for administering the Gates-MacGinitie standardized reading tests in the 1994-95 school year. These were to: assess gains in reading achievement over the course of the school term; compare the performance of students at Sun Valley school to the performance of students in the norming group and thereby validate the instructional program at Sun Valley; and finally, to establish whether there were any significant differences in the reading achievement of students in the French immersion program and those in the regular stream. The results suggest that:

1. There were significant gains in the reading achievement of the Grade Four students from the Fall to the Spring, with the Spring average grade equivalent score being 6.84. This indicates that on the average, the Sun Valley students are reading almost one grade level higher than would be expected.

2. Compared to the national norms, in which case 49 percent of the students' scores in meaning vocabulary performance fall within the 50th, 55th and 60th T-score midpoint ranges, at Sun Valley almost 65 percent of the scores fell within these ranges, representing outstanding performance. For comprehension, the results were similar, with the majority of students achieving at above average levels. These results are confirmed by analyzing the histogram on page 32 which shows that comprehension performance is positively skewed toward the upper limits of the normal curve.

3. This outstanding performance hold true for French immersion as well as regular stream students. There were no significant differences in the performance of students in either program.

Grade Five

As suggested, T-scores were used to analyze the results of the standardized testing, beginning with the results of the vocabulary subtest, then comprehension and then both scores combined. Means and percentages were examined first, followed by frequency counts. The scores of students in both the French immersion and regular stream programs were included in this analysis. To test whether differences between the Spring and Fall performance were significant, statistical comparisons on each subtest, using grade equivalent as opposed to T-scores, were carried out. Matched pairs *t* -tests were used to analyze differences in the statistical comparisons. Finally, an additional comparison to determine whether there were any statistically significant differences in the performance of students in the French immersion and the regular stream was conducted.

I. Vocabulary

Means and percentages. A T-score of 50 represents an average score. The mean or average score for Grade Five students in vocabulary for the Spring test period was 50.76. This compares with the average T-score obtained in the Fall of 51.87 and suggests that, relative to the students in the norming group, the students at Sun Valley are progressing at a rate that is similar to that of the students at this grade level.

To actually describe vocabulary performance, the percent of scores falling within each range was surveyed. Performance reflected a central tendency. That is, in the Spring, 33.02 percent of the scores fell within the midpoint range of 50. This was somewhat higher than the Fall scores, when 27.36 percent of the students attained scores within this midpoint range. The percent of scores falling on either side of this midpoint of 50 was similar across test times. In the Fall, 17.92 percent of the scores fell within the midpoint range of 45. In the Spring, the figure was exactly the same (17.92). While in the Fall, 19.81 percent of the scores fell within the midpoint level of 55, this figure dropped somewhat in the Spring, when 15.09 percent of the students' scores fell within this midpoint range. While 21.59 percent of the scores (7.55 plus 8.49 plus 7.55) fell within the midpoint ranges of 60, 65 and 70, performance in the Spring was relatively similar. Approximately 19 percent (18.87) of the scores (10.38 plus 2.83 plus 5.66) fell within this midpoint range in the Spring.

At the lower end of the scale, performance was also relatively stable. While in the Fall, 94 percent of the scores fell within the midpoint range of 30, no scores fell into this range in the Spring. In both the Fall and the Spring, 5.66 percent of the scores fell within the midpoint range of 35. Performance was somewhat different in the Spring within the midpoint range of 40. In the Fall 4.72 percent of the scores fell within this range and in the Spring, the figure jumped somewhat to 9.43 percent. Overall, however,

the increase in scores from Fall to Spring occurred within the midpoint range of 50, with some students increasing their performance at the midpoint range of 40. Compared to the normal distribution, more scores than would be expected fell within the midpoint range of 50 (for the Spring, 33.02 percent compared to the normal expectation for this range of 20 percent), indicating that performance exceeded national norms. This information is contained in the following table.

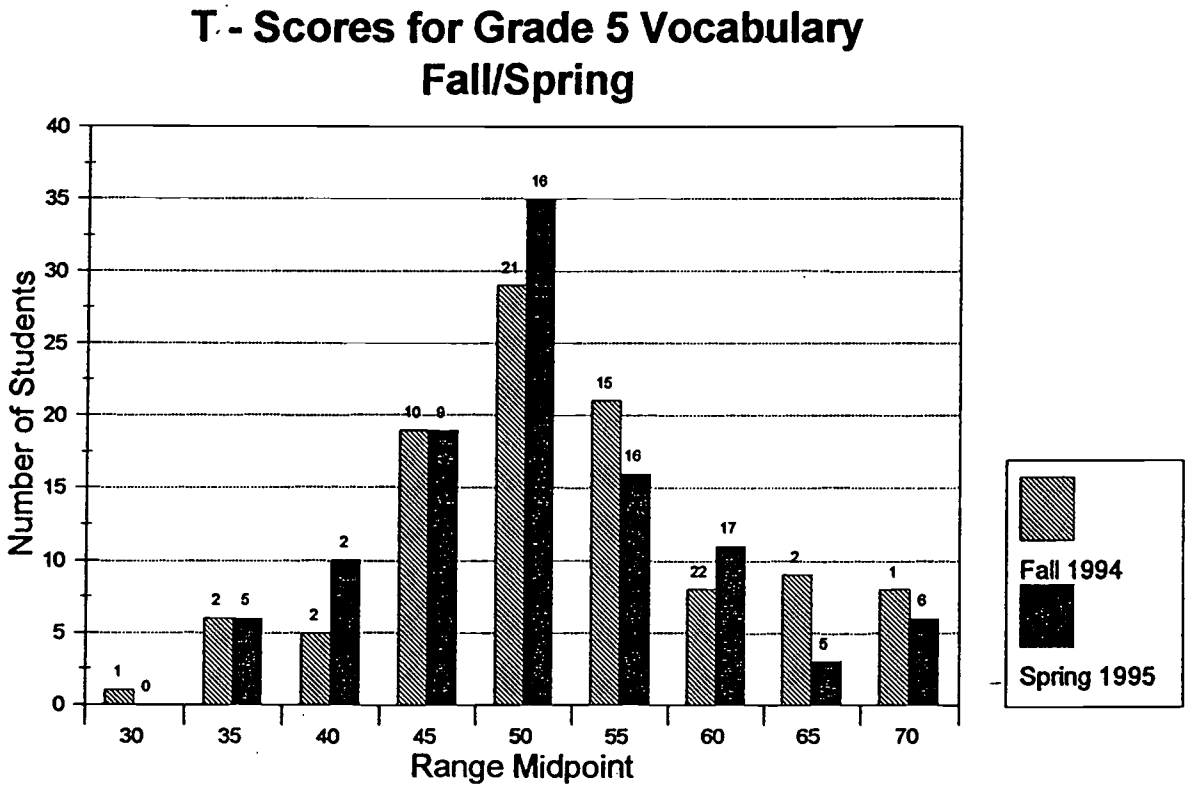
T - Scores for Grade 5, Vocabulary

Range	Percent		Frequency	
Midpoint	Fall	Spring	Fall	Spring
30	0.94	0.00	1	0
35	5.66	5.66	6	6
40	4.72	9.43	5	10
45	17.92	17.92	19	19
50	27.36	33.02	29	35
55	19.81	15.09	21	16
60	7.55	10.38	8	11
65	8.49	2.83	9	3
70	7.55	5.66	8	6

Frequency counts (N = 106). As indicated in the above table, an analysis of the actual number of students achieving scores within each respective midpoint range supported the percentage analysis which indicated a central tendency. In the Fall, 29 students scored within the midpoint range of 50. In the Spring, 35 students performed at this midpoint level. Similarly, in both the Fall and the Spring, 19 students attained scores at the midpoint level of 45. In the Fall, 21 students scored at the 55 midpoint range while in the Spring, this number dropped slightly to 16. These differences may not be statistically significant, however. While 25 students (8 plus 9 plus 8) scored within the midpoint ranges of 60, 65 and 70 in the Fall, in the Spring, 20 students scored within these ranges (11 plus 3 plus 6).

The number of scores at the lower end of the continuum remained relatively stable across test times. In the Fall, the scores of 12 students (1 plus 6 plus 5) scored within the midpoint ranges of 30, 35, and 40. This was similar to the Spring results when the scores of 16 students (0 plus 6 plus 10) fell within these ranges. What was somewhat troubling was that in the Fall the scores of 5 students fell in the 3rd stanine (midpoint range of 40) but in the Spring this number rose to 10. Overall, vocabulary performance in the Spring seemed to level off and centre at the midpoint range of 50. What was different in the Spring was that 35 as opposed to 29 students obtained scores that fell within the midpoint level of 50. In general, vocabulary scores fell close to the mean in the Spring with 71 students compared to 75 in the Fall obtaining scores within the midpoint ranges of 50 to 70.

This analysis is confirmed in an examination of the histogram. Compared to the Fall performance, in the Spring there seemed to be a much more pronounced central tendency with 35 students as opposed to 29 scoring within the midpoint range of 50, and 11 as opposed to 8 scoring within the midpoint range of 60. Seventy percent (27.36 plus 19.81 plus 7.55 plus 8.49 plus 7.55 = 70.76) of the students scored at average levels or above in the Fall, while in the Spring, 67 percent (33.02 plus 15.09 plus 10.38 plus 2.83 plus 5.66 = 66.98) scored at these levels. Compared to performance in a normal distribution in which case 60 percent of the scores would fall within the midpoint ranges of 50 and 70, the vocabulary performance at Sun Valley is still above average.



II. Comprehension

Means and percentages. With a T-score of 50 indicating average performance, the mean performance for comprehension in the Fall was 52.00 and in the Spring, 52.09, suggesting that for Sun Valley students reading comprehension performance was above the national average.

A closer examination of the percent of scores within each midpoint range shown

in the accompanying table suggested, however, that as a group, students at Sun Valley seemed to be reading at a higher level. As was the case with vocabulary performance, compared to the Fall performance, scores in the Spring seemed to reflect a central tendency. Whereas in the Fall, 24.53 percent of the students obtained scores at the average level (midpoint range of 50), performance in the Spring was similar, with 29.25 percent of the students obtaining scores at this level. While in the Fall 15.09 percent of the scores fell within the midpoint range of 45, in the Spring this figure rose somewhat to 20.75. In the Fall, 22.64 percent of the scores fell within the midpoint range of 55, while in the Spring, 18.87 percent of the scores fell within this range.

Performance at upper levels was relatively stable across test times. In the Fall almost 25 percent or one-quarter of the scores fell within the midpoint ranges of 60 to 70 (14.15 plus 5.66 plus 4.72 = 24.53). In the Spring, almost 23 percent (8.49 plus 11.32 plus 2.83 = 22.64) of the scores fell within these midpoint ranges which is close to the national norm.

At the lower end of the continuum, performance improved slightly from the Fall to the Spring. While in the Fall approximately 13 percent of the scores (0.94 plus 5.66 plus 6.60 = 13.20) fell within the midpoint ranges of 30, 35 and 40, in the Spring this figure dropped to approximately 9 percent (0.00 plus 1.89 plus 6.60 = 8.49). In a normal distribution, 23 percent of the scores would fall within these ranges, suggesting that comprehension performance at Sun Valley exceeds the national average.

T - Scores for Grade 5, Comprehension

Range Midpoint	Percent		Frequency	
	Fall	Spring	Fall	Spring
30	0.94	0.00	1	0
35	5.66	1.89	6	2
40	6.60	6.60	7	7
45	15.09	20.75	16	22
50	24.53	29.25	26	31
55	22.64	18.87	24	20
60	14.15	8.49	15	9
65	5.66	11.32	6	12
70	4.72	2.83	5	3

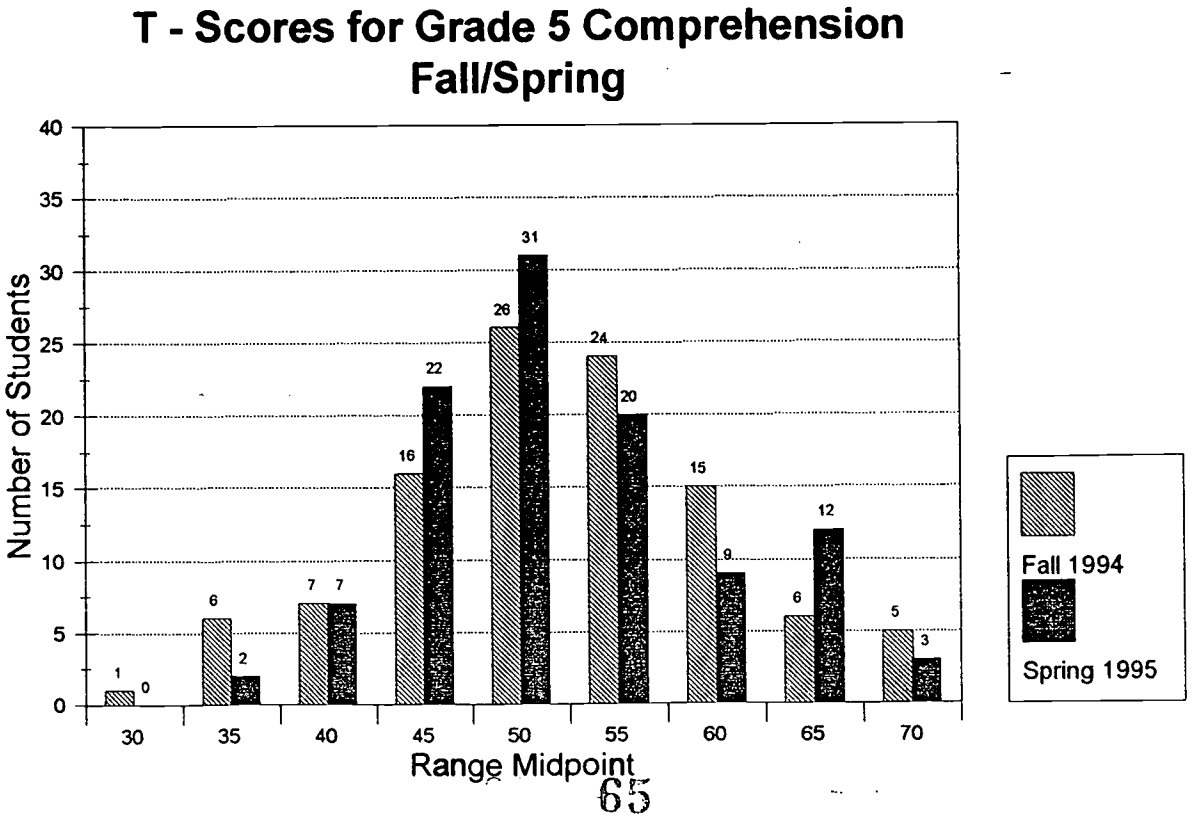
Frequency counts (N = 06). As indicated in the above table and the histogram on the following page, an analysis of the actual number of students achieving scores within each respective midpoint range of 45, 50 and 55 indicated that the number of

students obtaining scores within these ranges was relatively similar across the Fall and Spring test periods. In the Fall, 66 students (16 plus 26 plus 24) obtained scores that fell within the midpoint ranges of 45, 50 and 55. In the Spring, this number shifted upward with 73 students (22 plus 31 plus 20) obtaining scores within this middle range.

The number of students scoring within the upper midpoint ranges of 60, 65 and 70 also remained relatively stable from the Fall to the Spring. In the Fall, 26 students (15 plus 6 plus 5) obtained scores at these levels, while in the Spring, 24 students (9 plus 12 plus 3 scored within these upper ranges. Increases were double with 12 students' scores falling within the midpoint range of 65 in the Spring compared to 6 in the Fall.

At the opposite end of the continuum, there were also gains in performance. Fewer students (0 plus 2 plus 7 = 9) in the Spring obtained scores that fell within the midpoint levels of 30, 35 and 40. This compares to 14 students (1 plus 6 plus 7 = 14) who obtained scores within these lower ranges in the Fall.

An examination of the histogram supports this analysis. Compared to the Fall, in the Spring there seemed to be a more pronounced central tendency, with 37 compared to 26 scores falling within the midpoint range of 50. More students also scored within the midpoint range of 40 (12 compared to 8). The distribution of scores between the midpoint ranges of 55, 60, 65 and 70 also seemed to differ, with fewer students scoring within these ranges in the Spring (44 compared to 50 in the Fall). In general, performance increases from the Fall to the Spring seemed to be accounted for by gains in comprehension scores within the midpoint range of 45 (16 scores fell within this range in the Fall compared to 22 in the Spring).



III. Vocabulary and Comprehension Combined

Means and percentages. As indicated by the results of the vocabulary and comprehension subtests analyzed in the preceding discussion, when scores were combined, scores clustered around the mean, the T-score mean for the Fall being 51.30 and for the Spring, 50.96 . A mean falling within the T-score midpoint range of 50 indicates average performance. It is necessary to examine how scores are distributed to determine how well students performed, however.

In general, the majority of the students performed at average levels (within a midpoint range of 50). In the Fall, slightly over 60 percent of the students (16.04 plus 22.64 plus 21.70 = 60.38) obtained scores that fell within the midpoint ranges of 45, 50 and 55. Performance within these ranges in the Spring was remarkably similar, with just over 63 percent of the students (13.21 plus 34.91 plus 15.09 = 63.21) performing within these average levels. Compared to students in the norming group, in which case one would expect 54 percent of the students to perform within these levels, achievement at Sun Valley was above average.

From the Fall to the Spring test times, there seemed to be a pronounced central tendency in performance across test times. In the Fall, approximately one quarter of the scores (16.98 plus 1.89 plus 5.66 = 24.53 percent) fell within the midpoint ranges of 60, 65 and 70. In the Spring, this percentage dropped somewhat, with just over one-fifth of the scores (12.26 plus 5.66 plus 3.77 = 21.69) falling within these upper levels. In a normal distribution, 23 percent of the scores would fall within these parameters, suggesting that at upper levels, the Spring reading performance of Grade Five students at Sun Valley fell slightly. The difference between the Fall and Spring percentages (21.69 and 23) is likely not statistically significant.

An analyses of performance at the lower end of the continuum, however, compensates. Achievement at these levels was above the national norms. Ordinarily 23 percent of the scores fall within the midpoint ranges of 40, 35 and 30. Both in the Fall and the Spring at Sun Valley, almost 16 percent of the scores fell within these ranges, although there were slight variations in the patterns. In the Fall, less than 1 (.94) percent of the scores fell within the midpoint range of 30, 6.60 within the midpoint range of 35 and 7.55 within the midpoint range of 40 (total percent = 15.09). In the Spring, these percentages for the midpoint range of 30 were 0.00; for the midpoint range of 35, 3.77; and for the midpoint range of 40, 11.32. This totals 15.09 percent and indicates that performance at the lower end of the continuum exceeds national norms. These figures are shown in the table on the next page.

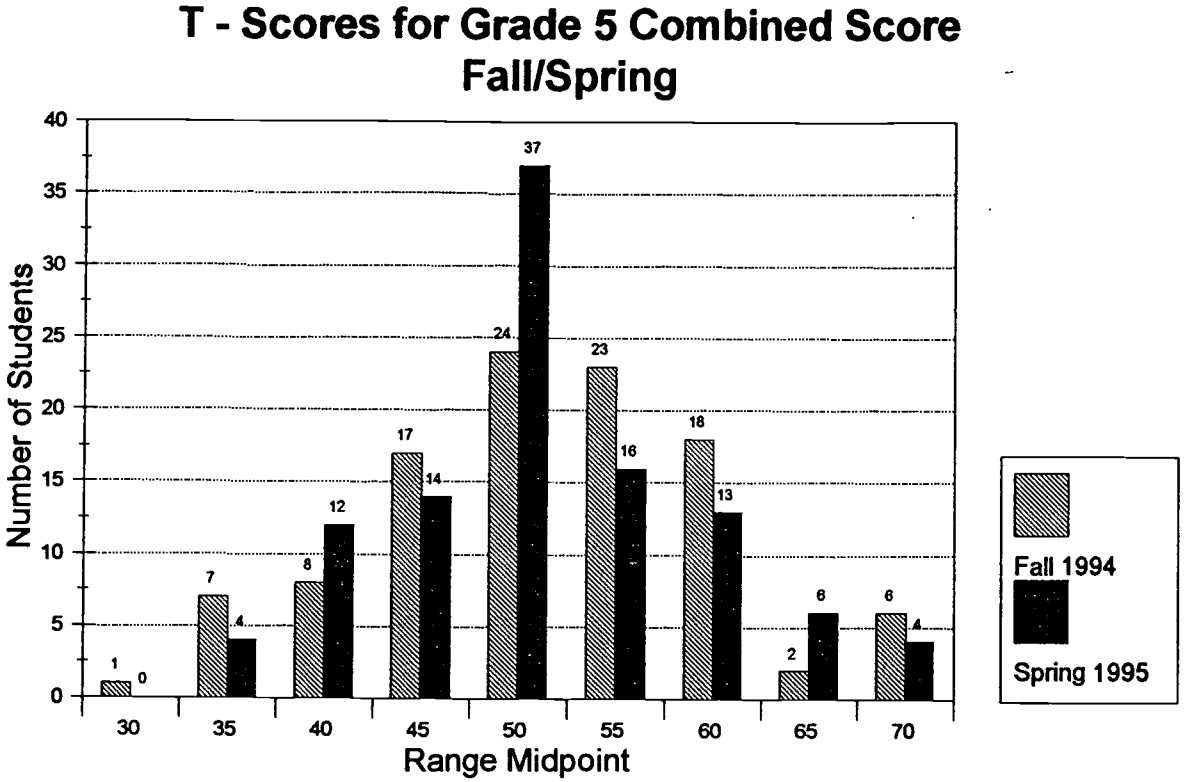
T - Scores for Grade 5, Combined

Range Midpoint	Percent		Frequency	
	Fall	Spring	Fall	Spring
30	0.94	0.00	1	0
35	6.60	3.77	7	4
40	7.55	11.32	8	12
45	16.04	13.21	17	14
50	22.64	34.91	24	37
55	21.70	15.09	23	16
60	16.98	12.26	18	13
65	1.89	5.66	2	6
70	5.66	3.77	6	4

Frequency counts (N = 106). An examination of the table above and the histogram on the next page, confirms the results revealed by analyzing the means and percentages. Performance was relatively stable from the Fall to the Spring with 23 students compared to 16 obtaining scores within the midpoint range of 55; and 18 compared to 13 obtaining scores within the midpoint range of 60. It was at the midpoint range of 50, however, that performance levels shot up (24 students scored at this level in the Fall, but 37 students' scores fell within this level in the Spring). In the Spring, over 60 percent (34.91 plus 15.09 plus 12.26 = 62.26) of the scores fell within the 50th, 55th and 60th midpoint ranges. This achievement exceeds the national norms. Generally 49 percent of the students perform at these levels.

There were minor differences at the 65th and 70th midpoint ranges. In the Spring, 6 students compared to 2 in the Fall obtained scores that fell within the midpoint range of 65 and 4 students compared to 6 obtained scores that fell within the midpoint range of 70. Also notable was that the number of students scoring at the 40th midpoint range at the lower end of the continuum increased from 8 to 12. In the Fall 33 students scored within the midpoint ranges of 30, 35, 40 and 45. In the Spring, no students' scores fell within the midpoint range of 30, while in the Fall the score of 1 student fell within this midpoint range. In the Spring the corresponding frequencies for the midpoint ranges of 35, 40 and 45 were 4, 12 and 14. In the Fall, these frequencies were 7, 8, and 17 respectively.

An examination of the Spring histogram shows that performance was positively skewed with 39 of the 106 students (16 plus 13 plus 6 plus 4 = 39) performing above the midpoint range of 50, and 30 (0 plus 4 plus 12 plus 14 = 30) scoring below this level. The remaining 37 students scored within the midpoint range of 50.



Statistical Comparisons from Fall to Spring

Vocabulary. Vocabulary performance scores were converted to grade equivalent scores in order to conduct an analysis to establish whether the increases from Fall to Spring were statistically significant. Mean grade equivalent score for the Fall were 5.38 and for the Spring, 6.07, which is above grade level placement.

When statistical comparisons between the Spring and Fall performance for vocabulary were carried out to determine whether performance differences were statistically significant, as the accompanying chart indicates, there were statistically significant differences in grade equivalent scores across test times from the Fall to the Spring, with Spring scores being higher ($t = 7.46$, $p < .001$).

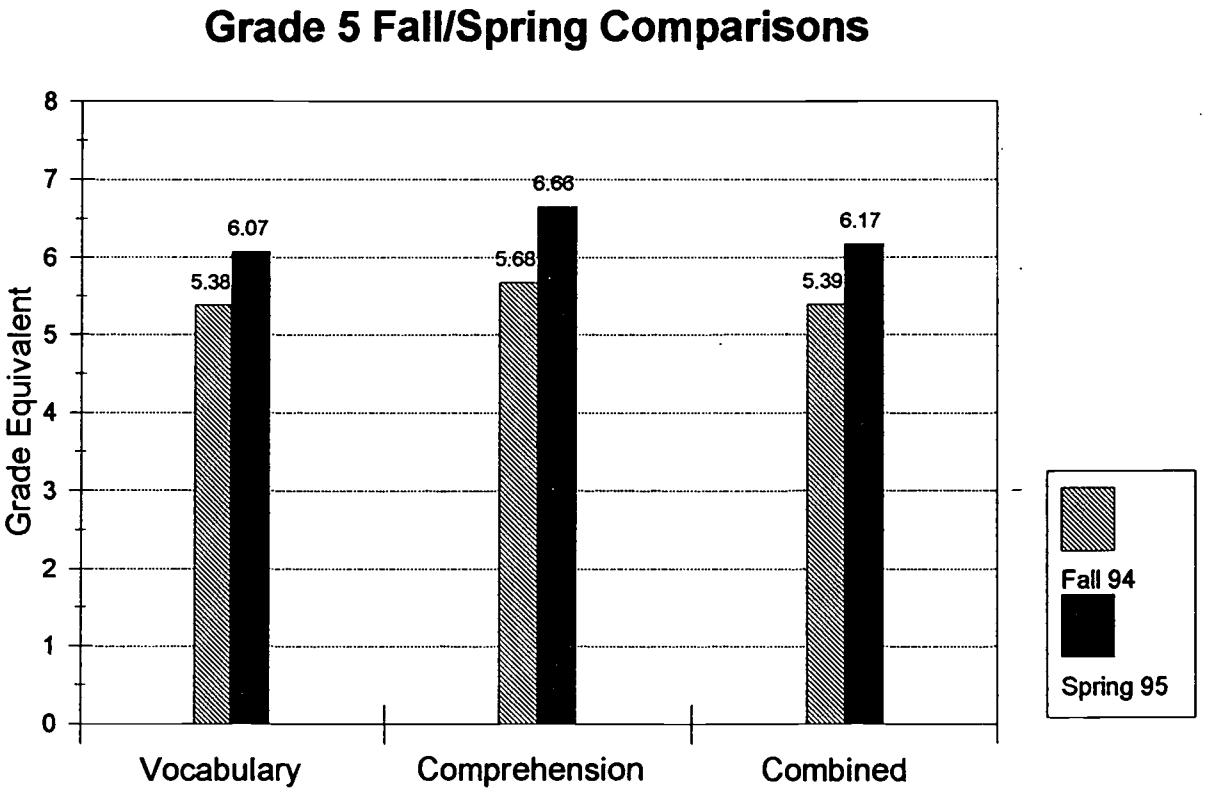
Comprehension. The grade equivalent mean for comprehension performance in the Fall was 5.38. In the Spring, the mean grade equivalent score was 6.07. Similar to the performance in meaning vocabulary, *t*-tests that compared Fall and Spring

comprehension performance indicated statistically significant gains (t = 6.72, p>.001).

This analysis confirms the descriptive analysis and suggests that the comprehension performance of the Grade Five students at Sun Valley exceeds the national norms.

Vocabulary and comprehension scores combined. The mean grade equivalent score for the Fall was 5.39, which is above grade placement levels, and for the Spring, 6.17, suggesting that the Grade Five students at Sun Valley are performing at expected levels.

When vocabulary and comprehension scores were combined and transformed into grade equivalent scores, the results indicated that students made significant gains over the course of the school year from the Fall to the Spring (t = 8.15, p<.001).



Comparisons between French Immersion and Regular Stream Performance

Vocabulary. When the Spring vocabulary scores were transformed into grade

equivalents, the mean performance for the 40 French Immersion students was 5.82. This compares to the mean for the 66 students in the regular program of 6.22. The results of the two sample *t*-tests assuming unequal variances indicated that there were no statistically significant differences between the performance of students in the two programs (t = 1.42, p >.05).

Comprehension. When the Spring comprehension scores were transformed into grade equivalents, the mean comprehension performance for the 40 French Immersion students was 6.32. This compares to the grade equivalent comprehension mean for the 66 students in the regular program of 6.86. The results of the two sample *t*-tests assuming unequal variances indicated that there were no statistically significant differences between the performance of students in the two programs (t = 1.25, p >.05).

Vocabulary and comprehension combined. The mean performance for the 40 French Immersion students was 5.9 when the Spring combined vocabulary and comprehension scores were transformed into grade equivalents. This compares to the mean for the 66 students in the regular program of 6.34. The results of the two sample *t*-tests assuming unequal variances indicated that there were no statistically significant differences between the performance of students in the two programs (t = 1.37 p >.05).

Summary and Discussion

Among the purposes for administering the Gates-MacGinitie standardized reading test to Sun Valley students in the Fall and the Spring during the 1994-95 school year were to: evaluate reading performance over the course of the year; compare the reading performance of Sun Valley students to students in the norming group; validate the reading instructional program; and establish whether the performance of the students in the French immersion program was significantly different from the performance of students in the regular stream. As indicated, the findings showed that:

1. There were statistically significant gains over the course of the school year from October to May.

2. In both vocabulary and comprehension there was a pronounced central tendency in the Spring. For vocabulary, approximately 33 percent of the scores fell within the midpoint range of 50 (5th stanine) with approximately 18 and 15 percent falling on either side (4th and 6th stanines respectively) of this midpoint. For comprehension, these figures were approximately 30 (29.25) percent within the midpoint range of 50 and 20.75 and 18.87 percent respectively within the 4th and 6th stanines. Nonetheless, for vocabulary, 66.98 and for comprehension &270.76 percent of the students scored at average levels or above, indicating

performance was above the national norms. Generally, in a normal distribution, 60 percent of the students would perform at these levels.

3. There were no significant differences in the performance of students in either program, indicating that the performance of the students in the French immersion program was equal to that of the students in the regular stream.

Summary of Findings

In addition to the most immediate purposes underlying the administration of the Gates-MacGinitie standardized test of validating informal reading inventory interpretations and determining which students were reading at, above and below grade placement level, further objectives of the reading assessment were to: measure gains in reading achievement between the Fall and the Spring for the 1994-95 school term; compare the reading performance of students at Sun Valley with the reading performance of students in the norming group; and based upon these results, validate the instructional program at Sun Valley school. Many French immersion teachers were concerned that their English speaking students in the immersion program would not make the same achievement gains as their counterparts in the regular program because the French immersion students receive only one hour of instruction in English language arts each day. Another objective of the standardized test evaluation project therefore was to determine whether there were any significant differences between the performance of students in the French immersion program and the performance of students in the regular stream. The major findings examining performance across the grade levels are outlined below. Statistical comparisons from the Fall pretests to the Spring posttests are presented first, followed by comparisons to national norms for vocabulary, comprehension and both scores combined. Finally, results are reported describing how scores clustered around the mean.

Statistical Comparisons from Pre to Post Test

● For all grade levels, there were statistically significant reading achievement gains from the Fall to the Spring in both vocabulary and comprehension and when both scores were combined, indicating that overall, students at Sun Valley are making very satisfactory progress in reading.

Comparisons with National Norms

Vocabulary

● For all grades, Spring vocabulary performance exceeded the national norms as shown by the following results.

Grade Two. In the Spring there was a central tendency for vocabulary performance. While 19.09 percent of the students scored within the midpoint range of 45 (4th stanine), 12.73 percent scored within the midpoint range of 50 (5th stanine), but 26.36 percent within the midpoint range of 55 (6th stanine). Despite this central tendency, 66.36 percent of the students scored within or above the midpoint range of 50 (5th, 6th, 7th, 8th and 9th stanines).

Grade Five. At the Grade Five level there was also a Spring central tendency with approximately 33 percent of the Spring scores falling within the midpoint range of 50 (5th stanine) and approximately 18 and 15 percent falling on either side (4th and 6th stanines, respectively). Despite this central tendency, compared to a normal distribution in which 60 percent of the scores fall at average levels or above, at Sun Valley 67.05 percent or approximately two-thirds of the scores fell within average and above average levels. The vocabulary performance of Sun Valley Grade Five students thus exceeds the national norms.

Grades Three and Four. For Grades Three and Four, vocabulary performance was positively skewed. The Spring results were especially striking with 78.02 and 78.94 percent of the students respectively scoring within average and above average levels, which is outstanding.

Dispersion of Scores

● Except at the Grade Four level where performance at upper levels improved from the Fall to the Spring, findings suggest that the current instructional program at Sun Valley meets the needs of low-achievers, but on the other hand that the best students may not be sufficiently challenged. This conclusion was reached from examining the dispersion of vocabulary scores.

When score dispersions from the Fall to the Spring at the Grades Two and Five levels were examined more closely, the analysis indicated that increases at the lower levels accounted for the majority of Fall to Spring performance gains in vocabulary. This tendency was also evident at the Grade Three level, although the trend was not as pronounced. Seven Grade Three students attained vocabulary scores in the 8th stanine in the Fall, but only 2 reached these levels in the Spring. Grade Three scores at the 9th stanine for vocabulary were relatively stable. In the Spring 2 students (compared to 1 in the Fall) obtained scores at this level. In contrast, at the Grade Four level more students scored at the 8th and 9th stanines in the Spring than in the Fall.

Comprehension

● For all grades, Spring comprehension performance exceeded the national norms. At the Grade Five level there was a central tendency but at all other levels, the dispersion of comprehension scores reflected a positively skewed distribution, suggesting that students at Sun Valley are reading well above the national norms.

Grade Two. For Grade Two in the Spring, 14.45 percent of the students scored within the midpoint range of 45 (4th stanine), 27.27 percent within the midpoint range of 50 (5th stanine), but more importantly, 34.55 percent within the midpoint range of 55

(6th stanine). Almost 81 (80.91) percent of the Grade Two students scored within or above the midpoint range of 50 (5th, 6th, 7th, 8th and 9th stanines).

Grades Three and Four. For Grades Three and Four, comprehension performance was also exceptional with 84.61 and 88.16 percent of the students respectively scoring within average and above average levels, which is outstanding.

Grade Five. At the Grade Five level, 70.76 percent or over two-thirds of the students scored within average and above average ranges. In a normal distribution, 60 percent of the scores fall within these limits, indicating that the performance of Grade Five students although not as extraordinary as that of the students at other grade levels, was still exceptionally high.

Dispersion of Scores

● As was the case with vocabulary performance except at the Grade Four level where comprehension performance at upper levels improved from the Fall to the Spring, an examination of the distribution of scores at Grades Two, Three and Five showed that scores seemed to level off at upper levels. Increases in performance at lower levels were evident, however. These lower level performance gains seemed to account for the Fall to Spring comprehension achievement increases. These findings suggest on the one hand that the current instructional program at Sun Valley meets the needs of low-achievers, but on the other that the best students may not be sufficiently challenged.

Vocabulary and Comprehension Scores Combined

● The same trends were evident when vocabulary and comprehension scores were combined. Spring performance exceeded the national norms. Increases at the lower levels seemed to account for the statistically significant achievement gains, while performance at upper levels remained relatively stable, suggesting that the current instructional program may not be challenging enough to meet the needs of the high achievers.

Comparisons between the Performance of Students in the Regular and French Immersion Programs

● The analysis of the Spring performance of students in the regular and the French immersion programs showed that at all Grade levels, there were no statistically significant differences in either vocabulary, comprehension or vocabulary and comprehension performance scores combined. The performance of the English students in the French immersion program was equal to that of their peers in the

regular program.

Conclusions and Recommendations

The reading performance of students at all grade levels at Sun Valley school improved significantly from the Fall to the Spring. Furthermore, there were no statistically significant differences between the achievement of students in the French immersion and the regular program. A comparison of the performance of students at Sun Valley with the performance of students in the norming group also showed that at all levels, the reading achievement of students at Sun Valley exceeded the national norms.

When the dispersion of scores from the Fall to the Spring was examined, however, findings indicated that except at the Grade Four level where performance levels increased across the board from the Fall to the Spring, for Grades Two, Three, and Five a central tendency at upper levels was evident in the Spring. Although the figures may not be statistically significant, scores at the upper levels seemed to taper off. In contrast, scores at lower levels increased, which seems to demonstrate that the achievement gains at lower levels accounted for the statistically significant gains in performance from the Fall to the Spring. This, in turn, seems to suggest that the current instructional program at Sun Valley meets the needs of low-achievers but does not sufficiently challenge the best students.

Recommendation. It is therefore recommended that staff give serious consideration to enhancing the reading program for students whose reading achievement is above grade placement level. Among the ideas to explore include the following.

1. Since the single best way to increase vocabulary is through wide reading, provide for more leisure time reading, especially for the English students in the French immersion program. The ensuing list of sources for highly rated children's books may be helpful. In addition, each year the October issue of The Reading Teacher also contains a list of Children's choices.

2. As the titles listed below suggest, it is important to maintain the links between reading and writing. Students can reflect upon and respond to what they are reading by keeping response logs and joining other classrooms (or adults from the business and academic community) on both the LAN and Wan networks. Listening to the responses of others leads to further thinking, rethinking and additional reflection. The current "Home Reading' programs may also be expanded.

A. Narrative Text

Kids' Favorite Books: Children's Choices (1992). International Reading Association.

More Kids' Favorite Books (1995). International Reading Association.

Teachers' Favorite Books for Kids (1994). International Reading Association.

B. Informative Text

Freeman, E. B. (1991). Informational books: Models for student report writing. Language Arts, 68, 470-73.

Salesi, R. A. (1992). Reading and writing connection: Supporting content area literacy through nonfiction trade books. In E. B. Freeman and G. D. Person (Eds.), Using nonfiction trade books in the elementary classroom: From ants to zeppelins (86-94). Urbana, IL: National Council of Teachers of English.

2. Although McKeown and her colleagues (1985) suggests that raising the level of "word consciousness" through such activities as "Word Wizard" (which promotes the use of vocabulary outside the classroom setting) is an effective approach to increasing meaning vocabulary, especially for English speaking students in the French immersion program consider more structured vocabulary instruction. Teaching strategies include: creating vocabulary overview guides, list-group-label, and semantic feature analysis (Lipson & Wixon, 1991) as well as continuing to use such procedures as semantic webbing, structured overviews and graphic organizers that are already being employed.

PART II - WRITING ASSESSMENT

The questions for investigation were:

How well does each student write?

What areas require more instructional input?

Are there statistically significant increases in the quality of the written expression of Sun Valley students from October to January, from January to May and from October to May?

Are there any statistically significant differences in the May writing performance of French immersion students compared to students in the regular program? and

Are there any statistically significant differences in the writing performance of students in Sun Valley and the performance of students in the rural and the comparison suburban school?

The responses to these questions are addressed grade by grade. A descriptive or qualitative analysis of representative papers across test times is also included. Exemplars for use in General Impression ratings are found in the Appendices.

Analysis

Grade Two

I. General Impression Marking (GIM) Ratings (Holistic Scoring)

Taking the nature of the task of writing descriptions into consideration, the holistic scoring of Grade Two papers considered the following elements: the identification of purpose or topic; the presence of detail or elaboration; choice of words; and organization or sequence. In terms of sequence, the descriptions were expected to order ideas from the most to the least important attributes and have a clear beginning, middle and end.

1) Means and Percent of Scores Falling within the Ranges of High, Middle and Low

While the highest possible holistic rating score which could be obtained was 12,

scoring, as shown in the accompanying table almost forty percent (31.86 plus 7.96) of the ratings fell within the middle and high ranges in October. In January, the quality of students' performance improved, with approximately 62 percent (57.28 plus 4.85 = 62.13) of the scores falling within these ranges. In May even further improvement was noticeable, with just over 90 percent (55.34 plus 34.95 = 90.29) of students' papers being rated as middle (5 to 8) of high (9 to 12).

Holistic Score Range

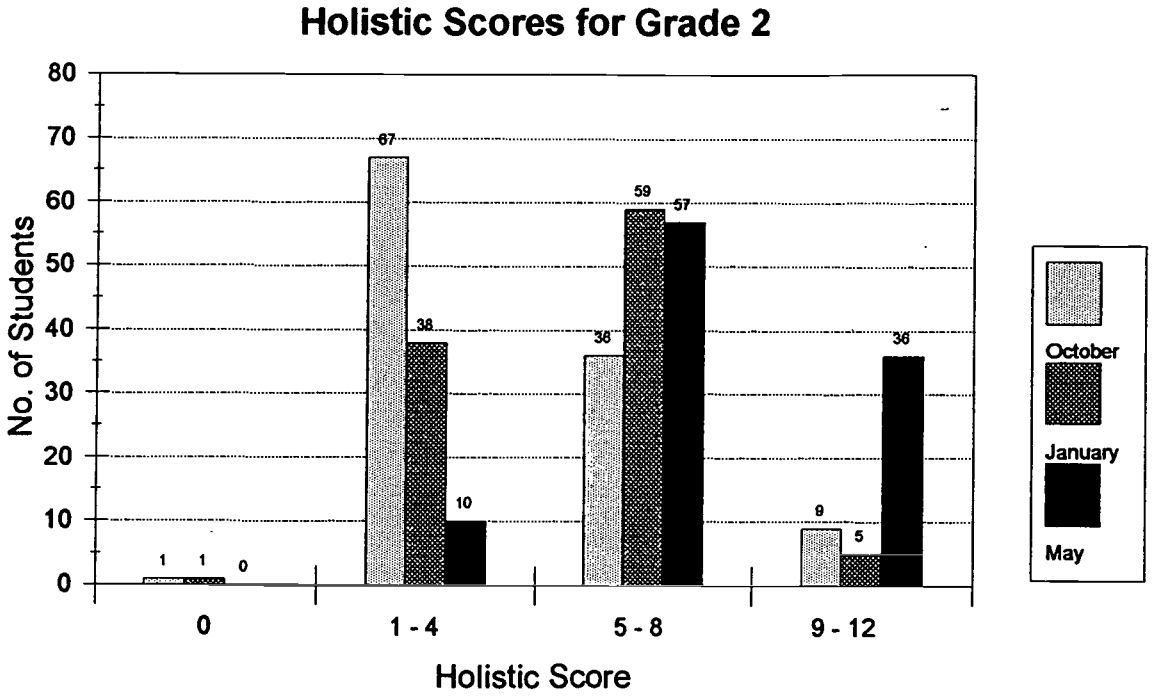
Testing Time	Zero	Low (1-4)	Middle (5-8)	High (9-12)	Mean
October	0.88%	59.29%	31.86%	7.96%	4.27
January	0.97%	36.89%	57.28%	4.85%	5.13
May	0.00%	9.71%	55.34%	34.95%	7.53

2) Frequency Counts (N = 103)

Further analysis of the holistic ratings according to frequency counts showed that in October, 9 students received high (9-12), 36 middle (5-8), and 68 low (1-4) ratings. There was a central tendency in regard to performance in January with scores shifting to the middle. Five students received high ratings, 59 middle, and 38 low ratings. One student in January received a score of zero. In May, however, scores moved upward with 36 students (more than one-third of the students) receiving a high rating (9 -12), 57 (more than one-half) a middle score (5 - 8), and 10 a low score (1 - 4). A table and a histogram depicting these findings are presented below and on the next page.

Holistic scores for Sun Valley School: Grade 2

Testing Time	0	1	2	3	4	5	6	7	8	9	10	11	12
October	1	2	31	14	20	16	9	10	1	7	1	1	0
January	1	4	7	12	15	17	22	12	8	2	2	1	0
May	0	0	0	2	8	9	14	23	11	16	7	10	3



3) Comparisons for October, January and May

When an analysis of variance comparing the general impression ratings across the three test periods from October to January, January to May, and October to May was carried out, there was a statistically significant difference, F (2,306) = 4.9, p=<.001. Tukey post hoc comparisons revealed that performance ratings increased significantly from October (Mean 4.27) to January (Mean 5.13) and that ratings increased significantly again from January (Mean 5.13) to May (Mean 7.53). Performance from October to May also increased significantly.

4) French Immersion Comparisons

The mean holistic score for the 72 students in the regular program was 7.74, while the corresponding mean for the 31 students in the French immersion program was 7.06. The results of the two sample *t*-test assuming unequal variances indicated that there were no statistically significant differences between the performance of the two groups (t = 1.43, p <.05).

5) Comparison Schools

When an analysis of variance was carried out, the general impression ratings were found to be significantly different from the ratings of students at Sun Valley school $F(2,149) = 4.89$, $p = <.01$ (the mean general impression score for Sun Valley being 7.53.) Tukey post hoc comparisons also revealed that the performance in the rural school (Mean 6.42) was not significantly different from performance in the other suburban school (Mean = 6.04), but that performance in both of these comparison schools was significantly lower than performance at Sun Valley.

II. Analytic Trait Scoring

For each analytic trait element, ratings were analyzed according to: 1) the percent of students falling into each descriptive writing rating category of high, middle, and low; and 2) the actual number of students receiving each score. The descriptive writing traits evaluated fell into three categories: content; organization; and mechanics and usage. For writing descriptions, there were three sub-categories under content: 1) topic focus/maintenance and the identification of writing purpose; 2) presence of detail or elaboration; and 3) word choice. Organization was rated independently. The sub-categories rated under mechanics and usage were: 1) varied sentence structure; 2) proper English usage; 3) appropriate use of punctuation and capitalization and 4) spelling.

1) Means and Percent of Scores Falling within the Ranges of High, Middle and Low

Content and organization. As shown in the accompanying table, there was systematic growth in all areas from October to January. The most noticeable gain from October to May was in focus or topic identification, with mean scores moving from 2.65 in October to 3.36 in January to 5.21 in May. (The maximum score for any analytic trait was 6.) The writing of the Grade Two students also began to take on form and contain a beginning, middle and end, the mean score for organization improving from 2.45 in October to 2.95 in January, to 4.24 in May.

Mechanics and usage. There were across the board gains in mechanics and usage, with the May mean for usage of 5.47 out of a possible 6 being particularly high. The January mean score for sentence structure was 3.88 increasing to a mean of 4.33 in May. There were variations in the percentage profiles. While almost 37 (36.89) percent of the students scored high in this category in January, almost 42 (41.75) percent achieved this rating in May. The percent of scores for sentence structure that fell in the low category decreased in May to 2.91 percent, indicating that the low-

achievers were now using more varied sentence patterns. In both January and May, approximately one-half of the scores (47.57 and 54.37 percent respectively) fell in the middle range (3-4).

Range of scores for Sun Valley School: Grade 2

	October					January					May				
	Zero	Low (1-2)	Middle (3-4)	High (5-6)	Mean	Zero	Low (1-2)	Middle (3-4)	High (5-6)	Mean	Zero	Low (1-2)	Middle (3-4)	High (5-6)	Mean
Topic Focus/Purpose	9.73%	43.36%	33.63%	13.27%	2.65	10.68%	26.21%	25.24%	37.86%	3.36	0.00%	0.97%	14.56%	84.47%	5.21
Detail/Elaboration	7.08%	53.10%	31.86%	7.96%	2.51	11.65%	23.30%	58.25%	6.80%	2.74	0.00%	10.68%	50.49%	38.83%	4.07
Wording	2.65%	63.72%	27.43%	6.19%	2.57	0.97%	32.04%	53.40%	13.59%	3.16	0.00%	13.59%	39.81%	46.60%	4.13
Organization	3.54%	57.52%	36.28%	2.65%	2.45	10.68%	36.89%	27.18%	25.24%	2.95	0.00%	14.56%	43.69%	41.75%	4.24
Sentence Structure	4.42%	33.63%	54.87%	7.08%	3.00	2.91%	12.62%	47.57%	36.89%	3.88	0.97%	2.91%	54.37%	41.75%	4.33
Usage	3.54%	15.04%	70.80%	10.62%	3.42	0.00%	8.74%	27.18%	64.08%	4.78	0.00%	0.97%	8.74%	90.29%	5.47
Punctuation/Capitalization	7.08%	23.01%	53.10%	16.81%	3.09	0.00%	20.39%	39.81%	39.81%	3.91	0.00%	12.62%	36.89%	50.49%	4.40
Spelling	7.96%	21.24%	61.06%	9.73%	3.05	7.77%	26.21%	37.86%	28.16%	3.41	0.97%	23.30%	26.21%	49.51%	4.16

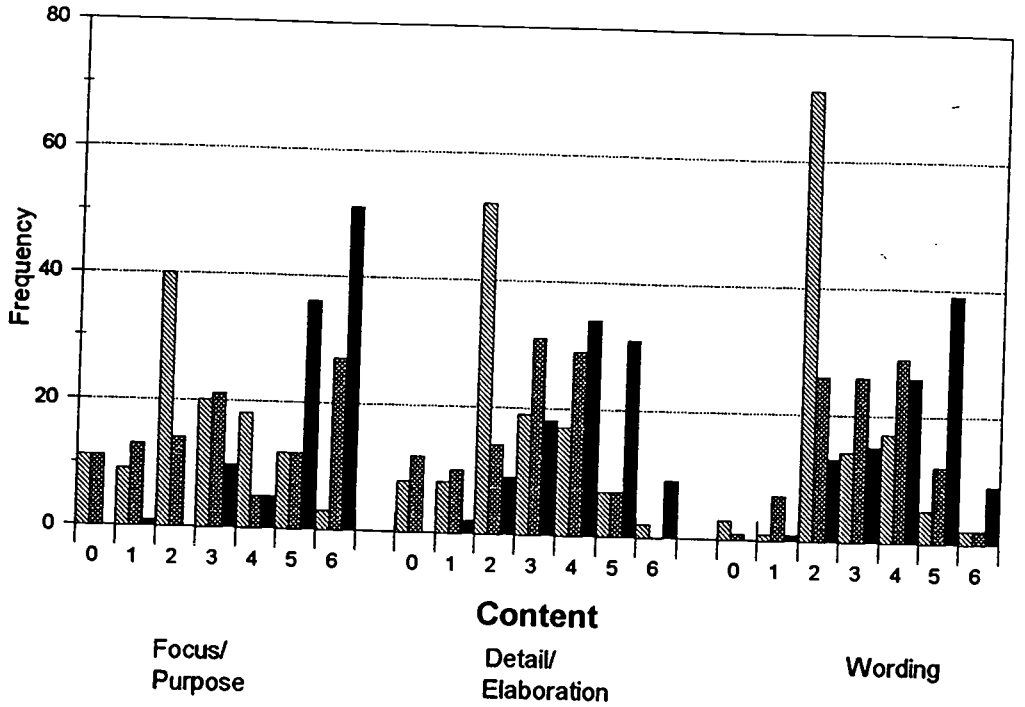
2) Frequency Counts (N = 103)

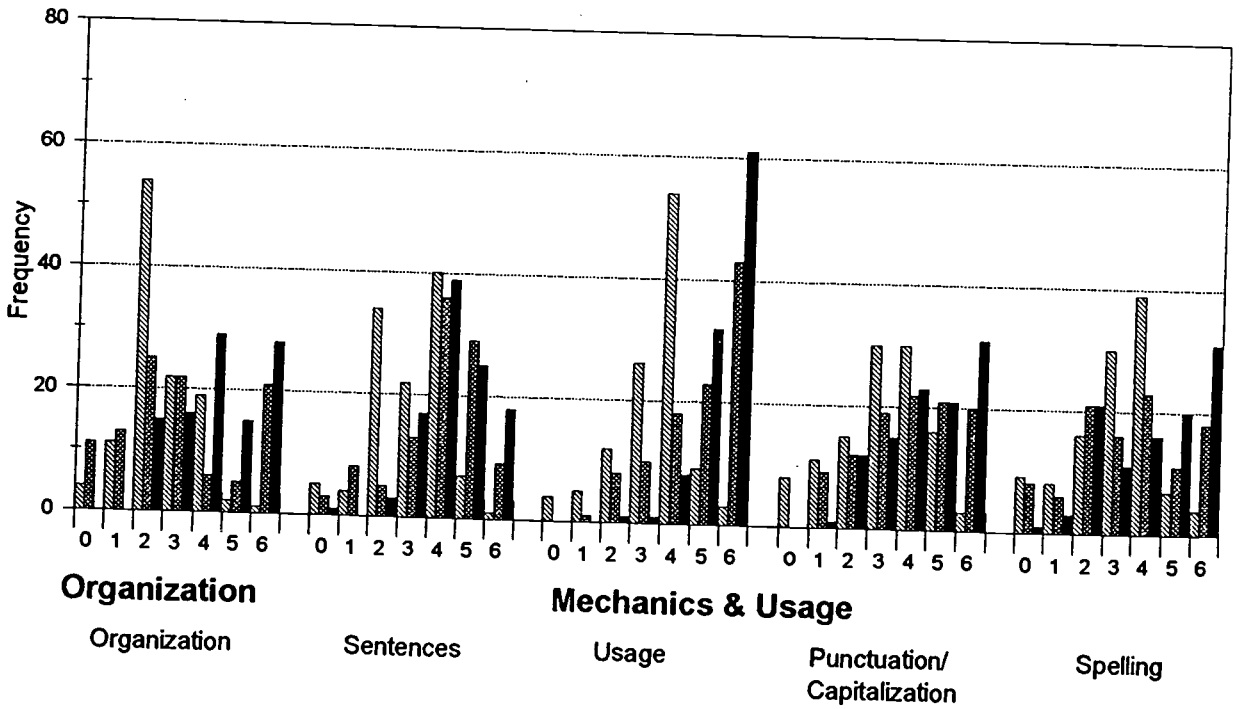
The frequency count analysis supports the foregoing evaluation. By May, students were able to maintain their topic/focus as they wrote and use acceptable English (87 out of the 103 students attained a rating of 5 or 6 in the topic/focus category and 93 a 5 or 6 for usage). These results are presented in the table below and in the histogram on the following page.

Scores for Sun Valley School: Grade 2

	October							January							May						
	0	1	2	3	4	5	6	0	1	2	3	4	5	6	0	1	2	3	4	5	6
Topic Focus/Purpose	11	9	40	20	18	12	3	11	13	14	21	5	12	27	0	1	0	10	5	36	51
Detail/Elaboration	8	8	52	19	17	7	2	12	10	14	31	29	7	0	0	2	9	18	34	31	9
Wording	3	1	71	14	17	5	2	1	7	26	26	29	12	2	0	1	13	15	26	39	9
Organization	4	11	54	22	19	2	1	11	13	25	22	6	5	21	0	0	15	16	29	15	28
Sentence Structure	5	4	34	22	40	7	1	3	8	5	13	36	29	9	1	0	3	17	39	25	18
Usage	4	5	12	26	54	9	3	0	1	8	10	18	23	43	0	0	1	1	8	32	61
Punctuation/Capitalization	8	11	15	30	30	16	3	0	9	12	19	22	21	20	0	1	12	15	23	21	31
Spelling	9	8	16	30	39	7	4	8	6	21	16	23	11	18	1	3	21	11	16	20	31

Grade 2 Writing Histograms For: Fall, Winter, and Spring





III. Qualitative Analysis

A perusal of students' writing across test times confirmed that writing competence had improved from October to May. The May writing protocols showed that students had begun to move away from repeating the same sentence stem to inform. The following excerpt is characteristic of students' October writing. The student is writing about her/himself and is listing a series of attributes. There is no elaboration which was characteristic of all the papers that Grade Two students wrote at the beginning of the year.

I like to do gymnastics.
I can speak two languages.
I like to play my instrument.
I like to sleep.
I like to listen to music.
I'm good at colouring.

In January, students wrote more, produced more varied sentence patterns, and used more vivid expressions. They often seemed to get caught up in describing events, however, and as shown in the following example, seemed to lose sight of their topic which in this case was to describe a favourite family member.

My cousins name is carissa she always plays wihh my sister. My thinks she and my cousins are the queen of royalty o Once my cousin came over to my house after coming home from Foody coody. they went to moon Place. So they came to my house and played with my yellow belied sister. When I'm at my cousin I like to play segg. My sister likes to play with my cousin but I have fun myself too.

In contrast to the "unfocused" writing that occurred in January, in May papers were more organized, contained more colourful words and had more elaborate descriptions that contained sufficient enough detail to enable the reader to form an image of the person being described. As illustrated in the following papers, students were beginning to discover their own voice. Note that the original spellings, punctuation and capitalization have been maintained.

Why I Am Special

I like sports because I am good and got the speed for some. My Mom was born in Saskatchewan My Dad was born in Winnipeg and I have a Brother

he was Born in Winnipeg so was I. I was born on March 9 I was born at 3.15 A. m. My favorite movies are A goofy movie Born to Be Wild and the Santa Clase. My favourite shows are Goof troop married with Children and home improovmints my fovorite carectors out of those six movies are goofy, the gorilla, and tim the tool man taler, goofy, Al Bundy, and tim the tool man taler. My favourite foods are lozona, Pizza, and cereal Because I like the nodles and the hamBurger, the crust and the toppings, and the kids [kinds] of cereal they have. I am special because kids like my moves in sports and I have a lot of friends. I like toys like little toy flash lights, top corner, and happy meal toys. My favourite Auther is robert munch The Best Book that I know is the Paper Bar princess. My 2 favourite teachers are mrs. thissen an Mrs. giese.

Although the student in the next illustration still seems to be struggling with the mechanics of writing, she has begun to use paragraphs. She elaborates on her ideas so that the reader begins to form a picture of why she is special.

Why I Am Special

Hi my name is Jessica. I was born in St. bonafis hosptall. on Sptemder 28 1987. now I an seven. I am very good at peano, basball and chach [track]. i inJoy playing with my friends. We play, tag, hid and go seek, sarders, skip and play at the park. I like working out. tehs [These] are som of the theis [things] we do. pushus, [puchups], stapus, Juping Jaxs; bending and staching [stretching]. Thats why my parits say I am butaful because of my hare and my body. i am very good at peano. I am vety good at school aspashlly math. I get I's, vg's, g, and e's on my report card.

I like to bance, I is funer than enething else.

I love mackup. I ware it evere day. It is cooll. every girl shood ware it I love to sing. I sing at home, I sing alot at music. I am beder than all the rest my parints say. I love to sing chimy chimy coco pop nd Gadma Gandma sit in bed.

The above writing protocols contain a wealth of information and show that some "good teaching" has been going on. The papers are organized around a series of categories including birth history, things I am good at, and favourite: sports, movies, characters, foods, toys, and authors. Students also explained **why**.

The following protocol, obtained in May, shows that students were also beginning

to bring their papers to an appropriate close and develop a sense of audience. Some key organizational terms - "First of all..." are also used. The concepts described are also very abstract, suggesting that this is a very mature student. S/he has also developed a "critical eye" because there are no mechanical errors.

My Special Friend

Let me tell you about my special friend, Mrs. Powers. She is my grown-up friend. First of all she is one of the people I feel I can come to when there is a problem or something is wrong. She understands me when I talk to her. It seems like I can't talk to anybody else like I can talk to her. I also have a lot of fun when I'm with Mrs. Powers. Mrs. Powers makes me happy when I'm sad. She is trusting and dependable. Now you know why Mrs. Powers is special to me.

According to Donald Murray (1968), rather than simply stating that the friend was "dependable" and "trusting", an effective writer would help the reader experience those qualities. This composition would be enhanced if the writer had told about a particular problem and how Mrs. Powers helped her deal with it. The writer could also describe an occasion when the two had fun. More elaboration would have assisted the reader in visualizing how Mrs. Powers was special. Perhaps the subject matter was too personal for the writer to describe in more detail. An important future instructional focus is to continue to help students elaborate on their ideas.

Summary and Discussion

Students in Grade Two made statistically significant gains in writing performance over the course of the school year. This was especially remarkable given the performance of students in the comparison schools. In May, over 90 percent of the papers received middle (5 to 8) or high (9 to 12) ratings, validating the Grade Two writing instructional program. There were no significant differences in the ratings obtained by the French immersion and regular stream students.

The results of the analytic trait scoring showed that students made gains in: 1) identifying their topic, maintaining their topic and explaining their writing purpose (87 of the 103 students received a 5 or 6 on this criteria); 2) providing more concrete details and elaborating on their topic in greater depth; 3) choosing better words to convey ideas, organizing their papers, using correct grammar and improving their ability to spell and use correct punctuation and capitalization. These results support the sustained process writing approach that Sun Valley Grade Two teachers provided this school year.

Grade Three

I. General Impression Marking (GIM) Ratings

Based upon the compare/contrast requirements of the writing task, in scoring the papers holistically raters checked to see that: 1) the topic and purpose for writing were identified; 2) both similarities and differences between what was being compared and contrasted were described; and 3) a conclusion was present.

1) Means and Percent of Scores Falling within the Ranges of High, Middle and Low

The profile of writing performance for the Grade Three students was positively skewed toward the middle and high ranges. Compared to the general impression mean performance score of 4.30 in October, the mean score for January was 5.13, and for May 7.67.

In May, almost 90 percent of the Grade Three students wrote papers that were rated either middle or high (51.22 plus 37.80). This represents a substantial achievement because only 10.98 percent of the May papers were rated low (1 -4), compared to October and January in which respectively 17.78 and 28.05 percent of the papers fell within this range. The percent of students who rated high increased substantially across test times, with 20 percent of the students rating high in October, almost 27 percent (26.83) in January, jumping to 37.80 percent in May.

Holistic Score Range

Testing Time	Zero	Low (1-4)	Middle (5-8)	High (9-12)
October	2.22%	17.78%	60.00%	20.00%
January	0.00%	28.05%	45.12%	26.83%
May	0.00%	10.98%	51.22%	37.80%

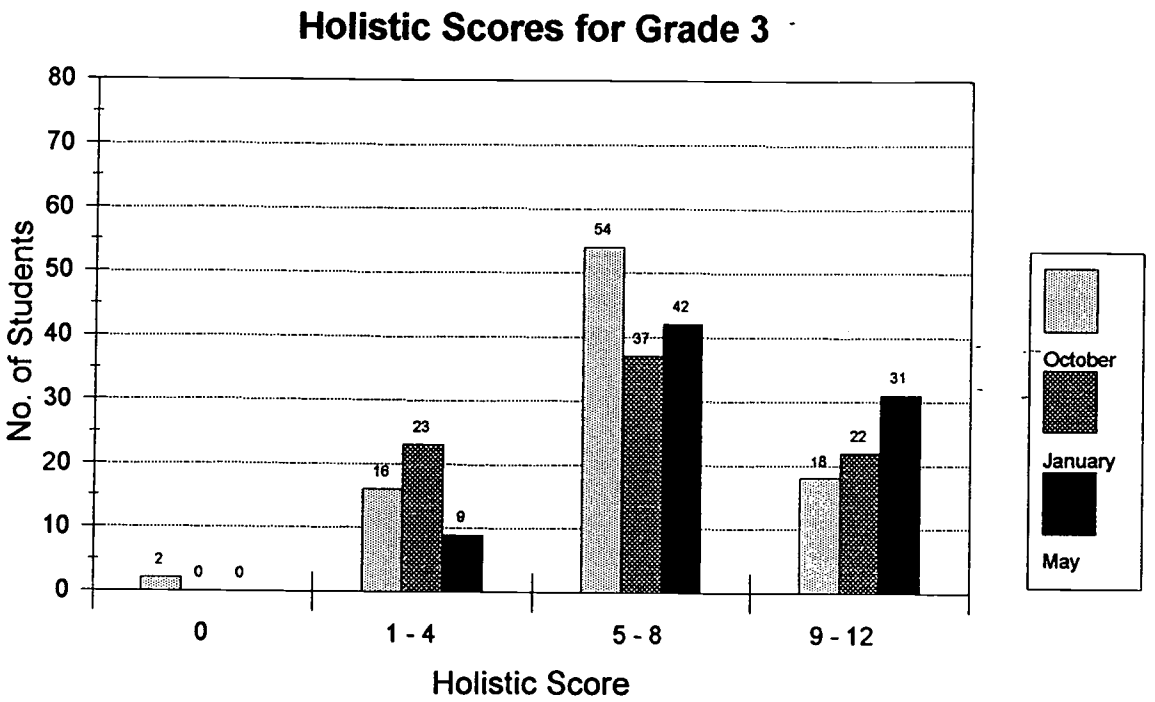
2) Frequency Counts (N = 82)

Further analysis of the holistic ratings according to frequency counts contained in the table and the histogram on the following page showed that in May, 31 students received a high rating (9 -12), 42 a middle score (5 - 8), and 9 a low score (1 - 4). No students received a score of 0, 1, or 2. Compared to October, the January ratings were

more evenly distributed with fewer scores falling in the middle range of 5 - 8 (15 plus 5 plus 9 plus 8 = 37), but more falling in the high range (11 plus 4 plus 5 plus 2 = 22). In October more students scored in the middle range (10 plus 19 plus 17 plus 8 = 54), but fewer in the high range (only 18 - 9 plus 6 plus 2 plus 1). In May, the number of students performing in the high range increased. Thirty-one students (7 plus 9 plus 11 plus 4) compared to 22 in January (11 plus 4 plus 5 plus 2) and 18 in October (9 plus 6 plus 2 plus 1) received high ratings. The statistical comparisons presented in the next section indicate that there were statistically significant gains in performance across the three test times.

Holistic scores for Sun Valley School: Grade 3

Testing Time	0	1	2	3	4	5	6	7	8	9	10	11	12
October	2	0	3	4	9	10	19	17	8	9	6	2	1
January	0	1	1	8	13	15	5	9	8	11	4	5	2
May	0	0	0	4	5	10	9	13	10	7	9	11	4



3) Comparisons for October, January and May

When an analysis of variance comparing the general impression ratings across the three test periods from October to January, January to May, and October to May was carried out, there was a statistically significant difference, F (2,243) = 6.81, p=<.001. Tukey post hoc comparisons revealed that: the performance ratings in January (Mean 6.45) increased significantly from the performance ratings in October (Mean 4.30); and that ratings increased significantly from January to May (Mean 7.67) and October to May.

4) French Immersion Comparisons

For the 59 students in the regular program, the mean holistic score in May was 7.69. The corresponding mean for the 23 students in the French immersion program was 7.61. The results of the two sample *t*-test assuming unequal variances indicated that there were no statistically significant differences between the two groups of students (t = .138, p <.05).

5) Comparison Schools

The profile of writing performance for the Grade Three students was positively skewed toward the middle and high ranges. Compared to the general impression mean performance score of 6.40 in October, the mean score for January was 6.45, and for May 7.67. According to analysis of variance and post hoc Tukey tests, the writing performance of students at Sun valley was significantly different from the mean general impression rating for both the rural (5.05) and the suburban school (6.10), F(2,122) = 11.59, p=<.01. The writing of informative text for Sun Valley Grade Three students therefore reflects remarkable achievement compared to the writing of their counterparts in the comparison schools.

II. Analytic Trait Scoring

1) Means and Percent of Scores Falling within the Ranges of High, Middle and Low

With the total possible score for each analytical trait scoring element being 6, as indicated in the accompanying table, for the May test period, all of the mean scores except drawing a conclusion (2.96) and describing how the things being compared were alike (3.73) fell in the 4 plus range. This constitutes a substantial improvement from October in which only one mean score, (4.03) for usage reached this level. In January, the mean scores for describing how things were alike (4.00), and for usage (5.35),

punctuation and capitalization (4.15) and spelling (4.16) were all above 4. In May students maintained this performance level. All of the mean scores for mechanics and usage were relatively high with mean percentage scores for sentence structure, usage, punctuation/capitalization and spelling being 4.10, 5.34, 4.33 and 4.72, respectively.

When the percent of May scores falling within the zero and low ratings were examined, results (19.51 zero and 21.95 low) suggest that for some students at this level, drawing a conclusion and bringing their paper to closure remains an important instructional focus. As suggested by the discrepancies between the January and May percentages (Mean scores for this trait being 4.00 in January and 3.73 in May), students also seemed to experience some difficulty in telling how the topics being discussed were alike. Approximately 25 percent of the papers in May (3.66 plus 20.73) were rated low or zero on this trait. Generally, however, mean scores at the Grade Three level were relatively high, suggesting that an appropriate instructional focus has been instituted.

Range of scores for Sun Valley School: Grade 3

	October					January					May				
	Zero	Low (1-2)	Middle (3-4)	High (5-6)	Mean	Zero	Low (1-2)	Middle (3-4)	High (5-6)	Mean	Zero	Low (1-2)	Middle (3-4)	High (5-6)	Mean
Topic Identification/Purpose	46.67%	26.67%	20.00%	6.67%	1.33	18.29%	8.54%	23.17%	50.00%	3.63	3.66%	7.32%	23.17%	65.85%	4.70
Description: How Alike?	14.44%	34.44%	42.22%	8.89%	2.56	4.88%	12.20%	24.39%	58.54%	4.00	3.66%	20.73%	28.05%	47.56%	3.73
Description: How Different?	4.44%	21.11%	60.00%	14.44%	3.33	7.32%	25.61%	28.05%	39.02%	3.39	2.44%	7.32%	31.71%	58.54%	4.50
Key Words	37.78%	31.11%	25.56%	5.56%	1.66	10.98%	4.88%	45.12%	39.02%	3.71	7.32%	13.41%	21.95%	57.32%	4.12
Conclusion	94.44%	2.22%	3.33%	0.00%	0.16	28.05%	26.83%	36.59%	8.54%	2.10	19.51%	21.95%	20.73%	37.80%	2.96
Organization	4.44%	24.44%	71.11%	0.00%	3.04	4.88%	19.51%	42.68%	32.93%	3.43	0.00%	15.85%	46.34%	37.80%	4.01
Sentence Structure	1.11%	21.11%	62.22%	15.56%	3.58	0.00%	9.76%	67.07%	23.17%	3.85	1.22%	8.54%	52.44%	37.80%	4.10
Usage	1.11%	8.89%	58.89%	31.11%	4.03	0.00%	1.22%	12.20%	86.59%	5.35	0.00%	0.00%	12.20%	87.80%	5.34
Punctuation/Capitalization	1.11%	17.78%	63.33%	17.78%	3.67	0.00%	10.98%	47.56%	41.46%	4.15	0.00%	4.88%	50.00%	45.12%	4.33
Spelling	1.11%	14.44%	55.56%	28.89%	3.83	0.00%	9.76%	46.34%	43.90%	4.16	0.00%	4.88%	34.15%	60.98%	4.72

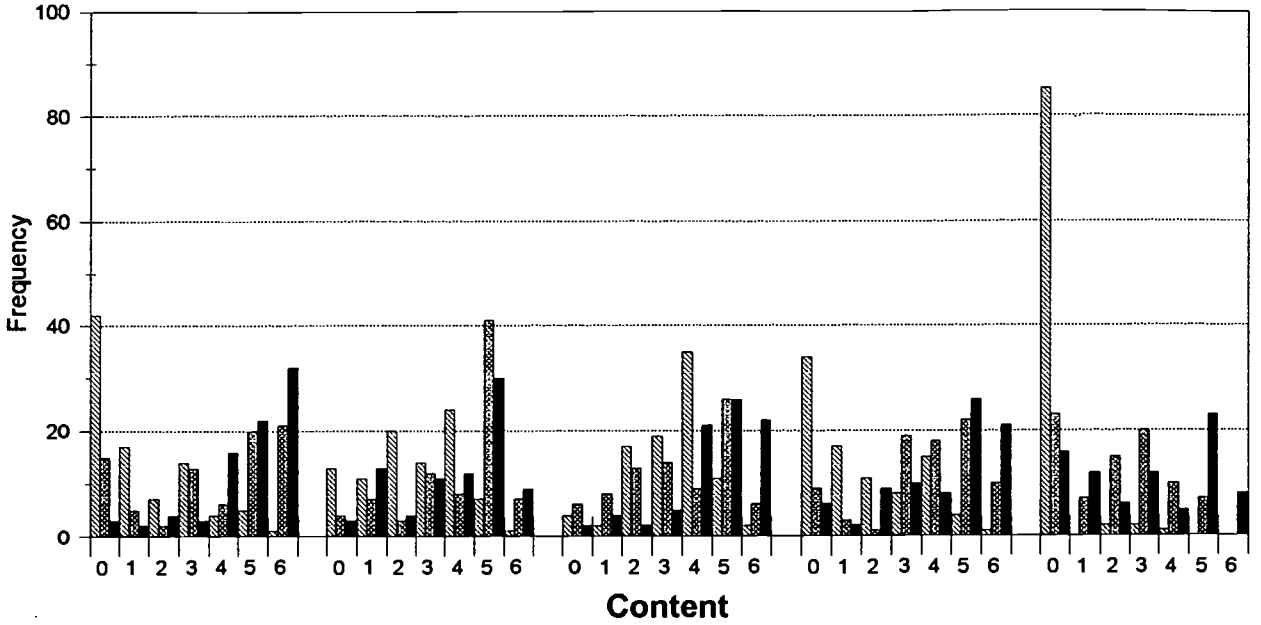
2) Frequency Counts (N = 82)

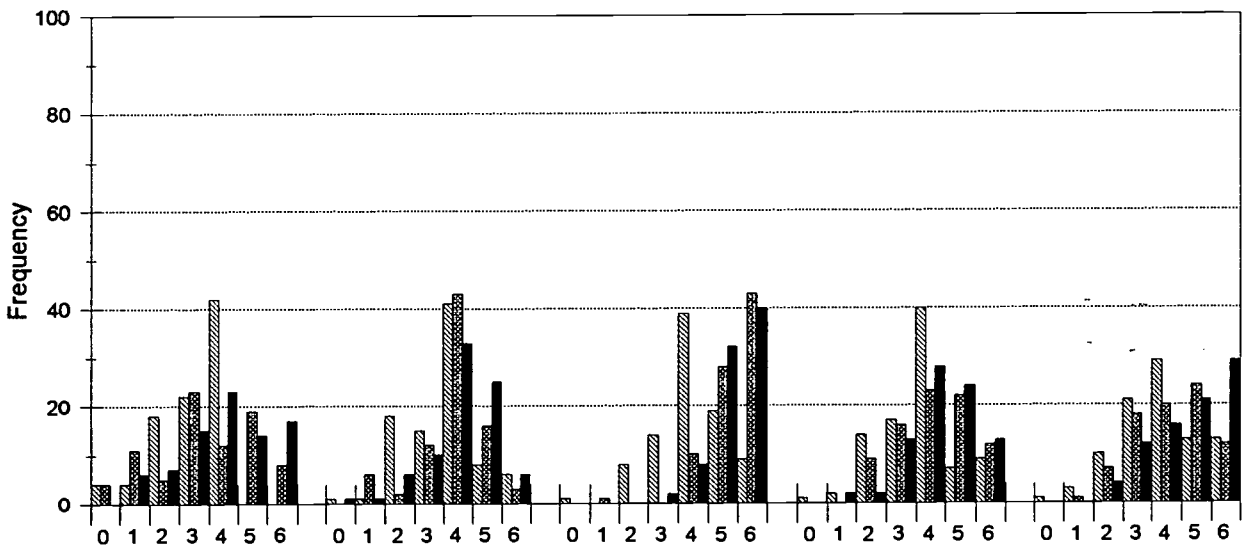
The frequency count analysis supports the above analysis. As indicated in the table and the accompanying histogram on the following pages, students successfully introduced their topic, explained how their topics were different, used key words, and attended to usage, punctuation/capitalization and spelling, thus exhibiting mastery over the compare/contrast writing pattern. Protocols illustrating both the growth in writing ability that occurred throughout the year and the high quality of students' writing are examined in the qualitative analysis in the next section.

Scores for Sun Valley School: Grade 3

	October							January							May						
	0	1	2	3	4	5	6	0	1	2	3	4	5	6	0	1	2	3	4	5	6
Topic Identification/Purpose	42	17	7	14	4	5	1	15	5	2	13	6	20	21	3	2	4	3	16	22	32
Description: How Alike?	13	11	20	14	24	7	1	4	7	3	12	8	41	7	3	13	4	11	12	30	9
Description: How Different?	4	2	17	19	35	11	2	6	8	13	14	9	26	6	2	4	2	5	21	26	22
Key Words	34	17	11	8	15	4	1	9	3	1	19	18	22	10	6	2	9	10	8	26	21
Conclusion	85	0	2	2	1	0	0	23	7	15	20	10	7	0	16	12	6	12	5	23	8
Organization	4	4	18	22	42	0	0	4	11	5	23	12	19	8	0	6	7	15	23	14	17
Sentence Structure	1	1	18	15	41	8	6	0	6	2	12	43	16	3	1	1	6	10	33	25	6
Usage	1	0	8	14	39	19	9	0	1	0	0	10	28	43	0	0	0	2	8	32	40
Punctuation/Capitalization	1	2	14	17	40	7	9	0	0	9	16	23	22	12	0	2	2	13	28	24	13
Spelling	1	3	10	21	29	13	13	0	1	7	18	20	24	12	0	0	4	12	16	21	29

Grade 3 Writing Histograms For: Fall, Winter, and Spring





III. Qualitative Analysis

The December report on the assessment of the October writing samples suggested that instruction needed to emphasize identifying the topic. Fall protocols failed to contain an opening statement to tell what was being compared and contrasted and why. Students focused on telling how the topics were different but did NOT elaborate on how they were alike. They also needed to use key words such as same, different, and on the other hand, and draw their papers to a close by reaching a conclusion.

An examination of the means, percentages and frequencies across test times, however, suggested that significant improvements had been made, especially in regard to: identifying the topic and stating a writing purpose; organization; using key words; and coming to a conclusion.

The following two protocols were written by the same student, one in January and the other in May. In the January example presented below, the student both introduces the topic and informs the reader of her/his purpose. S/he then explains how the paper is organized and maintains a balance between telling how her/his subject is both the same and different. S/he also provides a satisfying end to her/his composition.

Watches & Clocks

I would like to compare on how watches and clocks are different and alike in the following points. Apperence, how they work and where they are found. they both have hands exsept for digital. they have faces made of plastic or glass. it has 4 quarter and two halfs. Watches have straps but clocks don't. they both have gears and mechanisms to work them. people can change there time. they count by 5's. clocks are found on microwaves, radios, tables, walls, pockets, stores and buildings while Watches are found on arms and in stores. I like watches better because they look nice on me. It is closer to my face and it is easily to see.

The May writing sample included below seems less stilted, however. In May, the student had found voice, as indicated.

Spring and Fall

In the following paragraph I will be comparing spring and fall om how they are alike and different in the following subjects plant life, clothes we wear, colours of the seasoms and holidays. Both spring and fall have plant life.

Both spring and fall have trees, bushes and grass. However Spring has flowers, weeds and leaves grow on trees while in fall leaves fall off trees. People wear clothes in spring or fall like pants, t-shirts, shoes and caps however in spring you can wear shorts, light jackets sundresses, bathing soots and sandels. while in fall you can wear heavy jackets and sweat shirts. Spring and fall have colours however spring has green, yellow, brown, and red trees pink, purple, yellow and red flowers while in fall brown, red and gold are leaves on the ground. Spring and fall both have holidays however spring has Easter, Mothers day and Fathers day while fall has thanksgiving, Rememberence day and Halloween I like spring more cause of the warm sun shine om the tree tops makes me feel good cause of the happiness in the air.

Writing compare/contrast text is difficult. The following example obtained in May illustrates the sophisticated thinking involved as the writer reflects back and forth on the different facets of his/her topic. The ability both to organize the writing and to sustain the topic is evidence of both appropriate instruction and student growth. The writer states his/her purpose and has also developed a sense of audience. S/he is speaking directly to us in the last paragraph.

Winter and Summer

I am comparing winter and summer. I would like to know wich one is more easier to get dressed in to go out side.

The similarities of winter and summer are that they both have holidays like no school or we celebrate holidays like Xmas and Canada day. Theres also the sun that shines and there is seasons. We play hockey in schools or we go fishing but in winter we go ice fishing and in summer we go normal fishing. We also have storms (rain storms of snow storms). Now I will be telling you the differinsies. In winter it is cold and in summer it is hot weather and there is snow in winter and no snow in summer. On the trees in summer there is leaves however the tress are bare in winter. We have to wear more clothes in the winter than in summer. In winter animals hibernate and migrate but on the other hand in summer the flowers, birds and bugs are in the air and flowers are blowming!!

I ansered my question I think winter is harder to get dressed in, because you have to put on ski pants and a scarf and so on. So im left with summer and thats my anser. Thank you for reading my comparison of winter and summer.

Summary and Discussion

The general impression ratings of the writing performance of the Grade Three students at Sun Valley indicated that significant progress in writing quality was made between October and May. Almost 38 percent (37.8) of the students obtained high ratings at the end of the year, a significant achievement given the difficulty associated with writing compare/contrast text. There were no significant differences in the performance of students in the regular and French immersion programs. Performance ratings at Sun Valley were, however, significantly higher than the performance ratings of students in two comparison schools, both the rural and other suburban school.

Analytic trait scoring revealed that students had mastered: identification of topic and purpose; explaining how the two things being compared were different; the use of key words (both, however, while, on the other hand); and how to organize compare/contrast writing. Students seemed to have a much better sense of audience. While there was considerable growth both in incorporating details regarding how the topics were similar and in drawing the paper to an appropriate conclusion, the results suggest that for some students these two areas require continued instructional emphasis. Regardless, the overall growth in being able to compose informative compare/contrast text exceeded all expectations. The quality of students' writing demonstrates significant mastery over the genre.

Grade Four

I. General Impression Marking (GIM) Ratings

Given the requirements of the writing prompt, the holistic scoring for providing an explanation took into account: the identification of purpose or topic; an explanation of the relevance of the information (why a reader would need to know "how to"); an explanation of the steps to follow and why following these steps in an orderly fashion was necessary; and the presence of a conclusion. The percentage of students' scores falling within each holistic range of high, middle and low was analyzed first.

1) Means and Percent of Scores Falling within the Ranges of High, Middle and Low

The May writing performance of the Sun Valley Grade Four students was positively skewed toward the middle and high ranges. As shown in the accompanying table, the mean score for the May testing period was 8.26 compared to the January and October means of 7.47 and 6.37, respectively.

In May, more than 94 percent of the Grade Four students wrote papers that were rated either middle or high (47.30 plus 47.30). This compares to the October performance in which approximately seventy-five percent (47.76 plus 25.37 = 73.13) of the students obtained either middle or high ratings and the January performance in which approximately 97 percent (67.57 plus 29.73) rated middle or high. There was a different pattern within these levels across test times, however, as suggested by the analysis of frequency counts shown in the next section.

Holistic Score Range

Testing Time	Zero	Low (1-4)	Middle (5-8)	High (9-12)	Mean
October	0.00%	26.87%	47.76%	25.37%	6.37
January	0.00%	2.70%	67.57%	29.73%	7.47
May	0.00%	5.41%	47.30%	47.30%	8.26

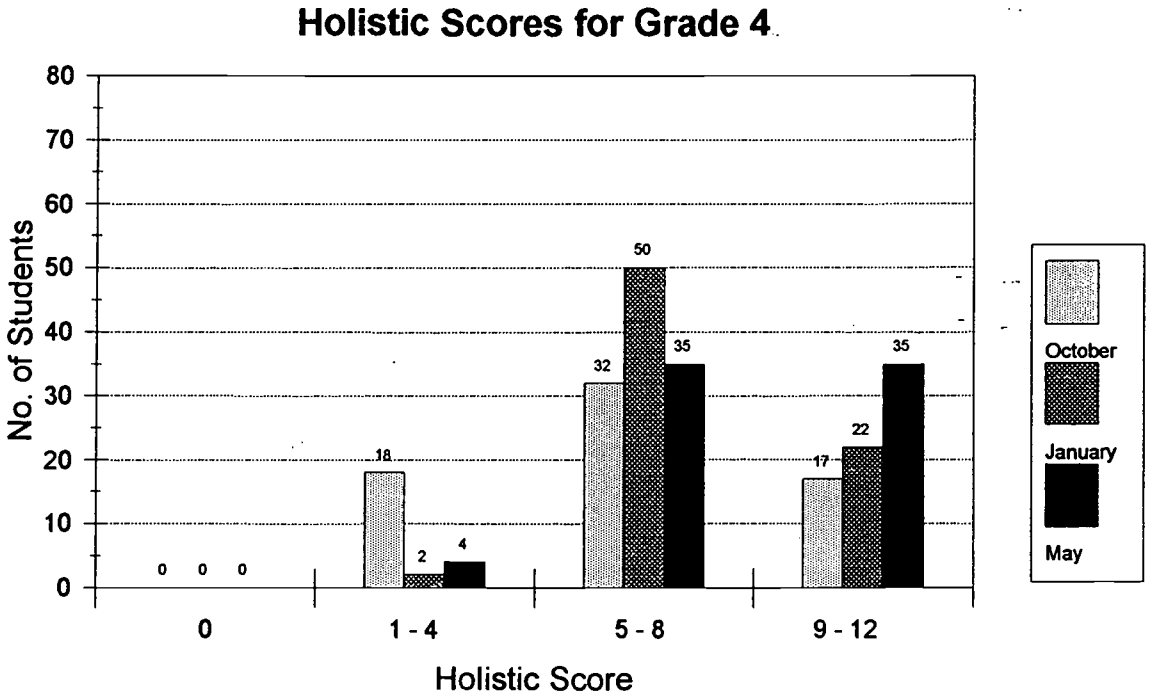
2) Frequency Counts (N = 74)

The holistic rating frequency counts contained in the following table and the

histogram showed that while in October and January, the scores of 17 (6 plus 5 plus 3 plus 3) and 22 (10 plus 8 plus 4 plus 0) students respectively, rated high, in May, 35 students obtained scores at this level, indicating higher end-of-year performance. Increases in the quality of students' writing is reflected in the progression of middle scores. In October, 32 students (9 plus 13 plus 4 plus 6) obtained scores in the middle range with that number increasing to 50 (10 plus 12 plus 14 plus 14) in January. In May the number of scores falling in the middle range decreased to 35 (5 plus 6 plus 12 plus 12) because more students who previously scored in the middle range received high ratings. Only 4 of the 74 students obtained scores of 1 to 4 (low) in May. Of these, 3 received a score of 4, and 1 a score of 2, indicating that the writing program at Sun Valley has been very effective indeed.

Holistic scores for Sun Valley School: Grade 4

Testing Time	0	1	2	3	4	5	6	7	8	9	10	11	12
October	0	0	6	5	7	9	13	4	6	6	5	3	3
January	0	0	0	1	1	10	12	14	14	10	8	4	0
May	0	0	1	0	3	5	6	12	12	11	10	11	3



3) Comparisons for October, January and May

When an analysis of variance comparing the general impression ratings across the three test periods from October to January, January to May, and October to May was carried out, there was a statistically significant difference, F (2,219) = 17.18, p=<.001. Tukey post hoc comparisons revealed that: The performance in January (Mean 7.47) was significantly different from the performance in October (Mean 6.37); and that performance from January to May (Mean 8.26) and from October to May increased significantly.

4) French Immersion Comparisons

The mean holistic score for the 40 students in the regular program was 7.6. The corresponding mean for the 34 students in the French immersion program was 9.03. The results of the two sample *t*-test assuming unequal variances indicated that there were no statistically significant differences between the two groups of students ($t = 2.9$, $p < .05$).

5) Comparison Schools

The mean general impression writing score for Sun Valley students in May was 8.26. The mean for the rural school was 4.38 and for the comparison suburban school, 6.67. According to the analysis of variance and post hoc Tukey tests, there were statistically significant differences among the writing scores for the three schools, F(2,116) = 36.73, p=<.001, suggesting that when the writing performance of the Grade Four students at Sun Valley is compared to the performance of students in other schools, the informative writing of the Sun Valley students reflects considerable expertise.

II. Analytic Trait Scoring

At the Grade Four level, for each analytic trait element, ratings were analyzed according to: 1) the percent of students falling into each expository writing rating category of high, middle, and low; and 2) the actual number of students receiving each score. The expository writing traits evaluated fell into three categories: content; organization; and mechanics and usage. There were four sub-categories under content: 1) topic identification and background regarding **why** the reader would need to know "how to"; 2) the use of key words such as first, second, next, then ...; 3) the presenting of steps to follow in the correct sequence or order; and 4) the inclusion of a clear, labelled diagram(s). Organization was rated independently. The sub-categories rated under mechanics and usage were: 1) varied sentence structure; 2) English grammar

or usage; 3) appropriate use of punctuation and capitalization and 4) spelling.

1) Means and Percent of Scores Falling within the Ranges of High, Middle and Low

Content and organization. With the total possible score for each analytical trait scoring element being 6, as indicated in the accompanying table, for the May test period, all of the mean scores except use of diagrams (3.08) fell in the 4 plus range. This, however, constitutes a substantial improvement from October in which the mean score for use of diagrams was 0.91 and from January in which the mean score for use of diagrams was still only 1.82.

An examination of the percent of scores falling within the zero and low ranges supports that the use of diagrams was a relative deficit in writing expository "how to" text. In May, just over one-half (5.41 and 47.30 = 52.71 percent) of the students scored either low or zero in the use of diagrams.

Sequencing or explaining the steps to follow in the correct order was a relative problem in October when the mean score was 3.03. In January, the mean score for sequencing increased to 3.80. However, the mean sequencing score for May increased to 4.04. Still, almost 15 percent of the students (4.05 plus 10.81 = 14.86) need to work on sequencing. Organization was another relative deficit with 13.51 percent (4.05 plus 9.46) of the students rating either zero or low in May.

Mechanics and usage. The mean scores for mechanics and usage were relatively high with mean scores for sentence structure, usage punctuation and capitalization and spelling in May being 4.54, 5.57, 4.73, and 4.96, respectively. These performance levels were relatively stable across test times with the respective mean performances for October being 4.63, 5.04, 4.46 and 4,27; and for January: 4.50, 5.73, 4.68 and 5.09. These scores and the frequency counts shown on the following page suggest that an appropriate instructional focus is being maintained in the Grade Four classes.

Range of scores for Sun Valley School: Grade 4

	October					January					May				
	Zero	Low (1-2)	Middle (3-4)	High (5-6)	Mean	Zero	Low (1-2)	Middle (3-4)	High (5-6)	Mean	Zero	Low (1-2)	Middle (3-4)	High (5-6)	Mean
Topic/Background	8.96%	14.93%	34.33%	41.79%	3.84	5.41%	5.41%	21.62%	67.57%	4.62	1.35%	8.11%	12.16%	78.38%	5.01
Key Words	1.49%	20.90%	32.84%	44.78%	3.93	2.70%	9.46%	39.19%	48.65%	4.14	2.70%	1.35%	16.22%	79.73%	4.95
Sequence of Steps	10.45%	31.34%	37.31%	20.90%	3.03	1.35%	4.05%	64.86%	29.73%	3.80	4.05%	10.81%	40.54%	44.59%	4.04
Use of Diagrams	70.15%	19.40%	2.99%	7.46%	0.91	37.84%	29.73%	21.62%	10.81%	1.82	5.41%	47.30%	18.92%	28.38%	3.08
Organization	8.96%	16.42%	14.93%	59.70%	4.16	1.35%	6.76%	54.05%	37.84%	3.95	4.05%	9.46%	29.73%	56.76%	4.34
Sentence Structure	1.49%	11.94%	32.84%	53.73%	4.63	0.00%	4.05%	47.30%	48.65%	4.50	1.35%	1.35%	48.65%	48.65%	4.54
Usage	0.00%	4.48%	26.87%	68.66%	5.04	0.00%	0.00%	1.35%	98.65%	5.73	0.00%	1.35%	5.41%	93.24%	5.57
Punctuation/Capitalization	1.49%	14.93%	28.36%	55.22%	4.46	0.00%	4.05%	44.59%	51.35%	4.68	0.00%	1.35%	40.54%	58.11%	4.73
Spelling	2.99%	19.40%	22.39%	55.22%	4.27	0.00%	2.70%	28.38%	68.92%	5.09	1.35%	1.35%	27.03%	70.27%	4.96

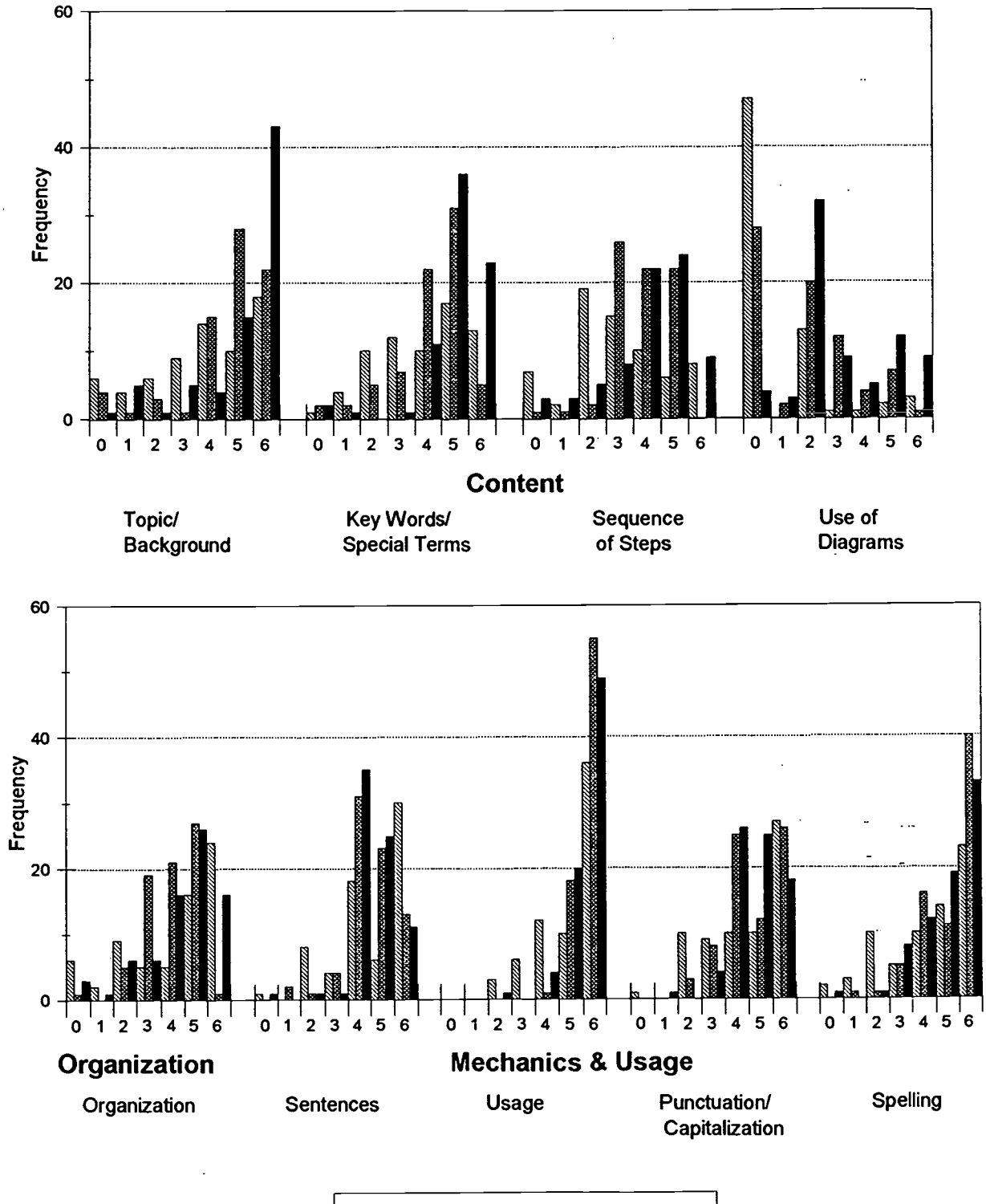
2) Frequency Counts (N = 82)

Content and organization. The frequency count analysis confirms the foregoing analysis. As indicated in the table and the accompanying histograms on the following page, in May, students successfully introduced their topic, used key words, and attended to usage, punctuation/capitalization and spelling, thus exhibiting mastery over the writing of informative text. In October, 28 students obtained a rating of 5 or 6 for topic identification. The number of students obtaining scores of 5 or 6 increased both in January and in May when 50 and 58 students, respectively achieved these levels. This pattern of increased performance was also repeated for the use of key words. In October, 30 students received a rating of 5 or 6, while in January and May 36 and 59 students respectively received these ratings, representing a substantial jump.

Mechanics and usage. As suggested by: (1) the percentages in each of the mechanics and usage criteria in the preceding table; (2) the frequency counts in the following table and (3) as illustrated in the histogram on the following page, in May many students were moving toward mastery of the writing conventions.

	October							January							May						
	0	1	2	3	4	5	6	0	1	2	3	4	5	6	0	1	2	3	4	5	6
Topic/Background	6	4	6	9	14	10	18	4	1	3	1	15	28	22	1	5	1	5	4	15	43
Key Words	1	4	10	12	10	17	13	2	2	5	7	22	31	5	2	1	0	1	11	36	23
Sequence of Steps	7	2	19	15	10	6	8	1	1	2	26	22	22	0	3	3	5	8	22	24	9
Use of Diagrams	47	0	13	1	1	2	3	28	2	20	12	4	7	1	4	3	32	9	5	12	9
Organization	6	2	9	5	5	16	24	1	0	5	19	21	27	1	3	1	6	6	16	26	16
Sentence Structure	1	0	8	4	18	6	30	0	2	1	4	31	23	13	1	0	1	1	35	25	11
Usage	0	0	3	6	12	10	36	0	0	0	0	1	18	55	0	0	1	0	4	20	49
Punctuation/Capitalization	1	0	10	9	10	10	27	0	0	3	8	25	12	26	0	1	0	4	26	25	18
Spelling	2	3	10	5	10	14	23	0	1	1	5	16	11	40	1	0	1	8	12	19	33

Grade 4 Writing Histograms For: Fall, Winter, and Spring



III. Qualitative Analysis

The initial Fall assessment indicated that for students to write successful explanations, they needed to work on: 1) identifying their topic and telling why it was important for the reader to know "how to"; 2) organizing their papers, paying particular attention to ordering the steps to follow; and 3) using key terms such as first, next, and then. Including diagrams to illustrate the "how to" steps was also identified as an important instructional focus.

The following protocol which explains how to construct an electric circuit is representative of the fall writing.

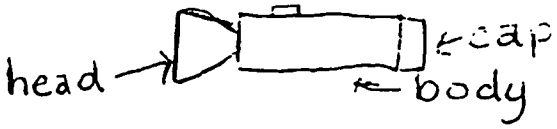
> ***To make light you need a battery two wires and a light bulb. Light moves very fast. if (If) their was no electricity it would be dark and barly (barely) anything would work. the (The) circuit gos (goes) aroun (around) and makes light. Lots of things need electricity to work (.) Do not stick your finger in a sccet (socket). Electricity is exstemly (extremely) hot. The electrons are so small you can't even see them through the biggest microscope.***

This paper begins by identifying the materials required to construct a circuit. This is a relative strength, however this information does not belong in the introduction. Authors of informative text must inform the reader of the topic and purpose in the beginning, otherwise there is bewilderment. In this paper, the reader must infer the topic and the purpose. While interesting, the remaining sentences fail to fulfil the demands of the assignment. Given the directions in this paper, readers would be unable to assemble a circuit.

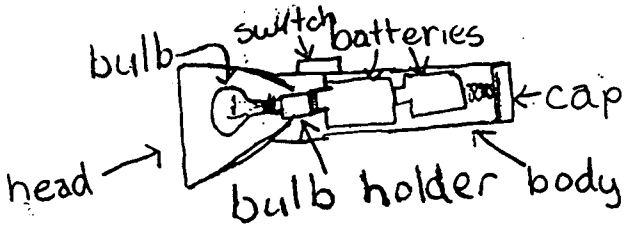
In May, as suggested by the subsequent protocol, students exhibited increased mastery over the writing of informative text. The protocol also demonstrates that an effective instructional program was implemented. The explanation in the protocol is meticulously detailed and well illustrated with appropriate, labelled diagrams. The presence of such minute details suggests that the student has a well developed sense of audience.

Flashlights

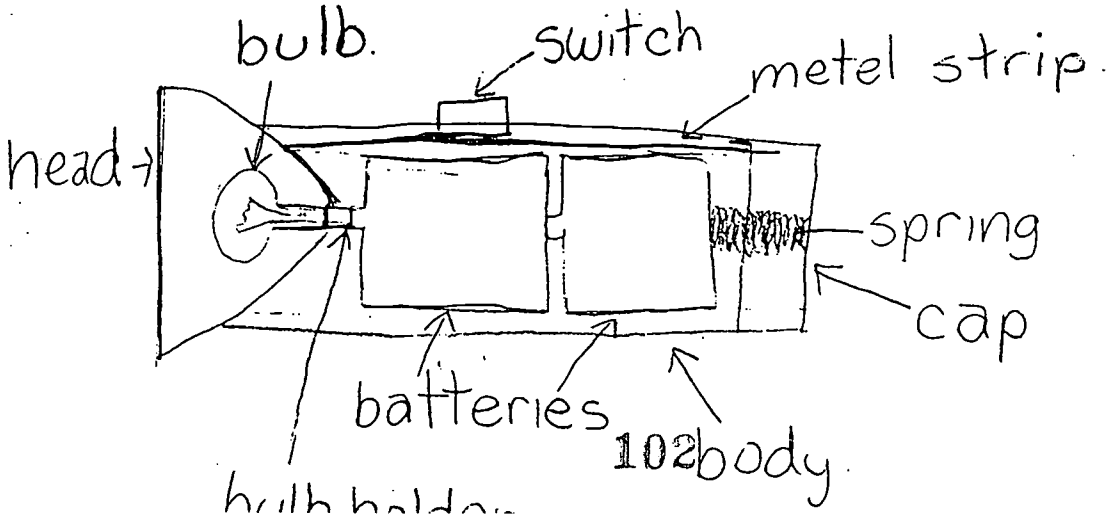
A flashlight is very important. You might have to use one incase of an emergency. It has three basic parts. The head, the body, and the cap.



You may need to take it appart, so you'll need to know how to put it back together. Listen carefully. This is how you put it back together. First you take the cap and screw it onto the bottem of the body. Secondly, you take the two batteries and put them in the same way. (Look at the diagram below.) Next, you pick up the bulb holder and screw the bulb into it. Then you take the bulb holder with the bulb in it and screw it into the head. After that you screw the head into the body. That is the way you put together a flashlight.



If you know the three basic parts of a flashlight and how to put it together, you should know how it works. So, this is how a flashlight works. The cap has metel on the bottom and the sides. A copper spring is attched to the bottem of the cap. The spring is conected to the batteries and the batteries are connected to the bottem of the bulb holder. The bottom of the bulb holder is metal so it conducts electricty from the batteries. The bulb is connected to the holder so the electricty goes through the light and onto a metel strip that conects to a switch, that lets you open and close the circut. Once it goes all the way down the metel strip if conects to the metel on the side of the cap and goes through the whole prosess again and again.



The following two protocols are from the same student and typify the growth that occurred over the year from the Fall to the Spring. The holistic rating for this student's paper in the Fall was 4 (Low) and in the Spring 8 (Average). The Fall protocol was restricted to giving directions only and contained no diagrams, while the Spring protocol demonstrates an increased sense of audience.

Fall:

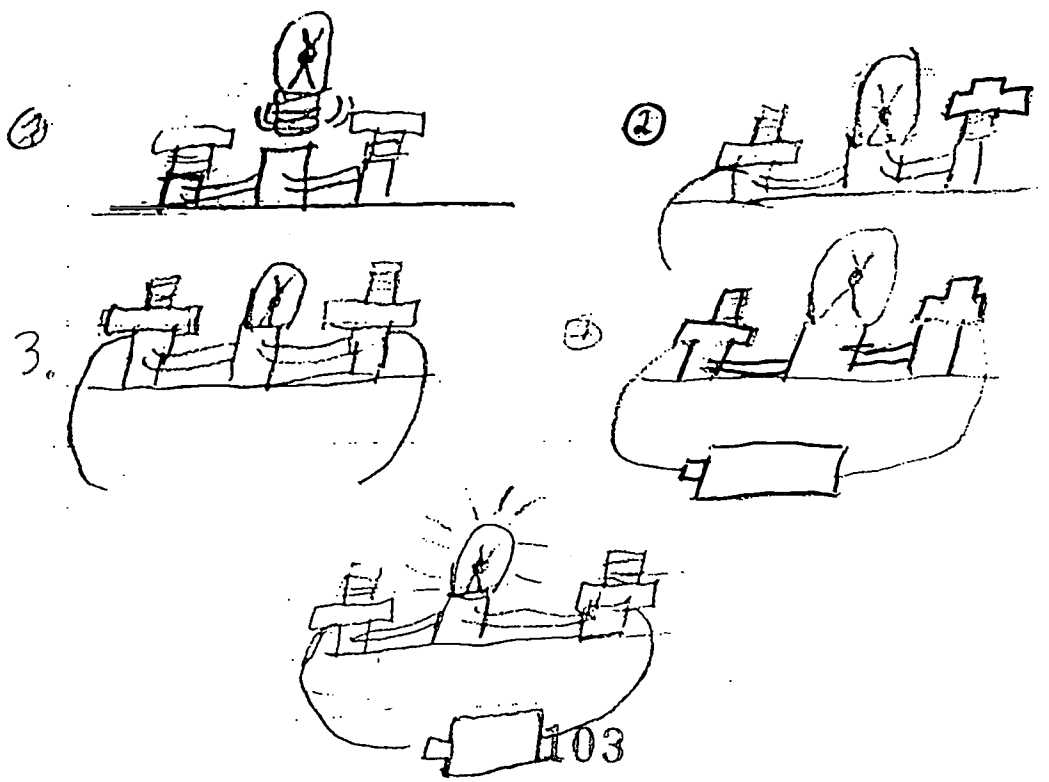
Putting together a flashlight

Take the body of the flashlight and screw on the foot. Take the sochet and put the light bulb in the sochet then scrow on the light bulb holder. Take the red ring put the sochet in it. Take to batteries put them in the body then scrow the red ring on the body then tron it on to see if it works.

Spring:

How to make a circuit

This is easy and fun to do. I think you will like this. To make a cicuit you will need one D battery, one small light bulb, one socet bord and two electric wiers mow yu can begin. first you take the socet bored and screw the small light bulb in tightly when you're finished take one end of the wier and clamp it on the terminal take the other end of the wier and clamp it on the other terminal after that take the other end of the wier put it on the nagative pole put the other end of the other wier to the posative pole. hold both of them there and the light bulb will light up.



The preceding two examples illustrate that with appropriate instruction, the writing performance of low-achievers can be enhanced.

Summary and Discussion

Considering that 94 percent of the students received general impression ratings that ranked either high (9 to 12) or middle (5 to 8), the writing performance of the Grade Four students at Sun Valley school is outstanding. This conclusion is substantiated by the statistical differences found between the performance of students at Sun Valley and the performance ratings of their peers in both a rural and companion suburban school. There were no significant differences between the performance of students in the French immersion and the regular program.

The analytic trait scoring revealed that students exhibited considerable expertise in: identifying both their topic and their purpose for writing, the use of key words (first, next, then, after that); and mechanics and usage. Remembering to include diagrams, providing the explanation in the correct sequence, and organizing the explanation require continued instructional emphasis. Generally, however, the mean scores for each analytic trait suggest that an appropriate instructional focus for process writing has been maintained. Further evidence to support the high quality of the end-of-year writing is contained in the protocols themselves which reflect not only the bona fide nature of the communication but also a lack of artificiality.

Grade Five

I. General Impression Marking (GIM) Ratings

The writing of a scientific report requires: a clear statement of the problem to be investigated; the systematic identification of steps to follow in conducting the experiment; the reporting of experimental results; a conclusion and discussion of the implications of the experimental findings. The holistic scoring of students' protocols considered all of these elements. The mean scores and the percent of scores falling within each range of high, middle, and low, are discussed first.

1) Mean Scores and Percent of Scores Falling within the Ranges of High, Middle and Low

The profile of writing performance for the Grade Five students in May was positively skewed toward the middle and high ranges. Mean scores increased from October to January and from January to May from 4.97 to 5.44 to 8.58. As indicated in the accompanying table, in May almost one-half of the students (49.02) scored in the high range (9 -12) and the remaining 50 percent scored in the middle range, which is outstanding. No student rated zero and one student (.98 percent) scored low, obtaining a rating of 4. This performance represents considerable gains across the testing periods. In October, 42.06 and 6.54 percent of the students scored either in the middle or the high range, while in January, 64 and 8 percent of the scores fell within these respective ranges. With almost 50 percent of the students receiving a high rating (9 to 12) and the other 50 percent receiving middle ratings (5 to 8), results indicate that students are responding to a highly successful instructional program.

Holistic Score Range

Testing Time	Zero	Low (1-4)	Middle (5-8)	High (9-12)	Mean
October	0.93%	50.47%	42.06%	6.54%	4.97
January	0.00%	28.00%	64.00%	8.00%	5.44
May	0.00%	0.98%	50.00%	49.02%	8.58

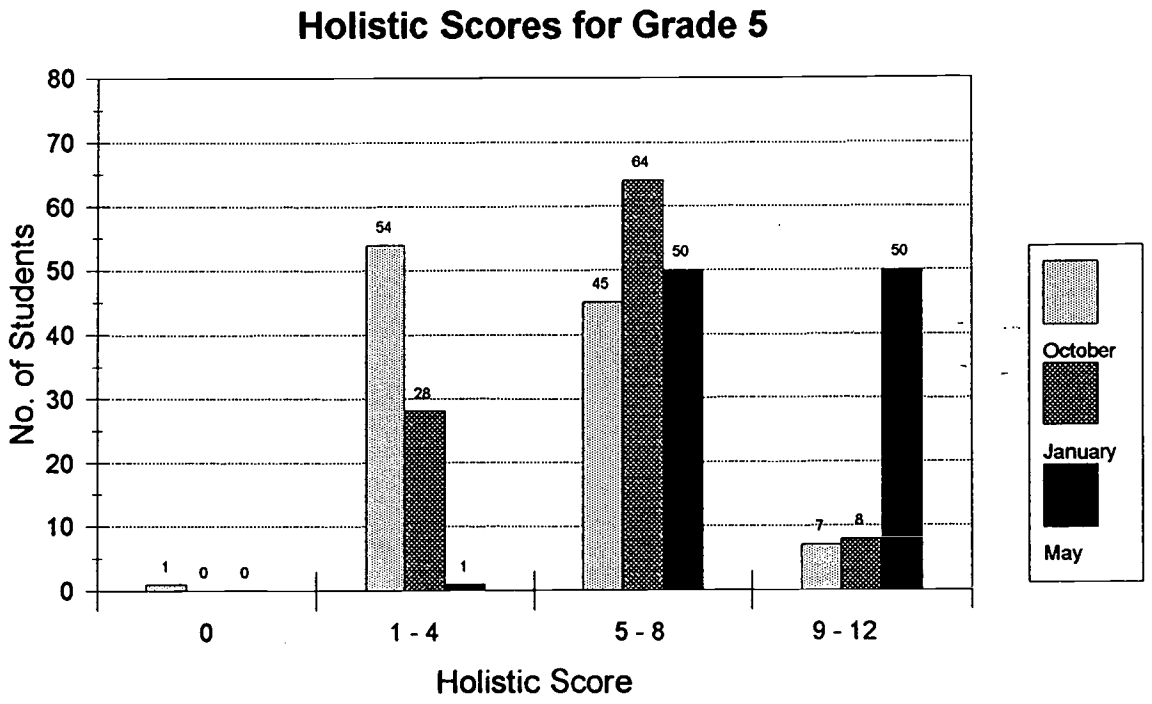
2) Frequency Counts (N = 102)

Reference to the holistic scoring frequency counts shown in the table and the histogram on the next page confirms the preceding analysis. In May, 50 (21 plus 18

plus 7 plus 4) of the 102 students received a high rating (9 -12), and 50 (1 plus 3 plus 19 plus 27) a middle score (5 - 8). The paper of the remaining student received a rating of 4 (low). These frequencies represent growth over the course of the school year. In October, 45 students obtained scores that fell in the middle range and 7 obtained scores in the high range. Performance levels increased in January, when 64 students obtained scores in the middle range and 8 obtained scores in the high range. The end-of-year results, when 50 and 51 students respectively obtained scores in the middle and high ranges represent substantial gains and accomplishment in writing.

Holistic scores for Sun Valley School: Grade 5

Testing Time	0	1	2	3	4	5	6	7	8	9	10	11	12
October	1	3	19	4	28	9	12	16	8	2	2	3	0
January	0	2	7	5	14	26	22	9	7	6	1	0	1
May	0	0	0	0	1	1	3	19	27	21	18	7	4



3) Comparisons for October, January and May

The statistical comparisons support the findings of the descriptive analysis. When an analysis of variance comparing the general impression ratings across the three test periods from October to January, January to May, and October to May was carried out, there was a statistically significant difference, $F(2,297) = 93.38$, $p = <.001$. Tukey post hoc comparisons revealed that: the performance in January (Mean 5.44) was significantly different from the performance in October (Mean 4.97); and that performance from January to May (Mean = 8.58) and from October to May increased significantly.

4) French Immersion Comparisons

For the 63 students in the regular program, the mean holistic score was 8.5. The corresponding mean for the 37 students in the French immersion program was 8.76. The results of the two sample *t*-test assuming unequal variances indicated that there were no statistically significant differences between the two groups of students ($t = .77$, $p < .05$).

5) Comparison Schools

The mean score for the May testing period was 8.6. This was significantly different from the mean general impression rating for both the rural school (3.79) and the suburban school (4.57), as revealed by analysis of variance and Tukey comparisons tests ($F(2,139) = 92.79$, $p = <.01$).

II. Analytic Trait Scoring

For each analytic trait element, ratings were analyzed according to: 1) the percent of students' scores falling into each expository writing category of high, middle and low; and 2) the actual number of students receiving each score. The scientific report writing traits evaluated fell into three categories: content; organization; and mechanics and usage. There were six subcategories under content: 1) the identification of the problem to be investigated; 2) a description of method; 3) the use of key words or headings pertaining to writing up an experiment; 4) the reporting of results; 5) reaching a conclusion(s) about the problem; and 6) the inclusion of clear, labelled diagram(s). Organization was rated separately. The sub-categories rated under mechanics and usage were: 1) sentence structure; 2) English grammar or usage; 3) punctuation and capitalization; and 4) spelling.

1) Means and Percent of Scores Falling within the Ranges of High, Middle and Low

As indicated in the accompanying table, many of the May mean scores were close to or over 5 out of a total possible score of 6. These traits included : 1) explaining the problem (5.50); 2) including the results (5.01); 3) organization (5.34); 4) usage, (5.65); and 5) spelling (5.05). With the exception of the use of diagrams (mean of 3.90) and discussion of conclusions (also a mean of 3.90), mean performance on all of the remaining traits ranged from 4.16 for including key words to 4.84 for describing method. These results indicate growth when compared to both the October and January ratings.

Range of scores for Sun Valley School: Grade 5

	October					January					May				
	Zero	Low (1-2)	Middle (3-4)	High (5-6)	Mean	Zero	Low (1-2)	Middle (3-4)	High (5-6)	Mean	Zero	Low (1-2)	Middle (3-4)	High (5-6)	Mean
Problem to be Explained	68.22%	9.35%	7.48%	14.95%	1.18	29.00%	27.00%	5.00%	39.00%	2.82	1.00%	1.00%	4.00%	94.00%	5.50
Description of Methods	42.06%	22.43%	27.10%	8.41%	1.67	5.00%	29.00%	27.00%	39.00%	3.42	3.00%	2.00%	24.00%	71.00%	4.84
Inclusion of Key Words	10.28%	31.78%	48.60%	9.35%	2.60	29.00%	27.00%	21.00%	23.00%	2.47	9.00%	8.00%	22.00%	61.00%	4.16
Inclusion of Results	1.87%	27.10%	26.17%	44.86%	3.89	11.00%	43.00%	30.00%	16.00%	2.50	3.00%	1.00%	16.00%	80.00%	5.01
Discussion of Conclusions	24.30%	48.60%	20.56%	6.54%	1.72	30.00%	49.00%	16.00%	5.00%	1.45	3.00%	18.00%	45.00%	34.00%	3.90
Use of Diagrams	81.31%	10.28%	6.54%	1.87%	0.42	59.00%	14.00%	12.00%	15.00%	1.45	13.00%	1.00%	46.00%	40.00%	3.90
Organization	57.94%	26.17%	14.02%	1.87%	0.90	45.00%	27.00%	15.00%	13.00%	1.72	0.00%	6.00%	9.00%	85.00%	5.34
Sentences	0.93%	17.76%	55.14%	26.17%	3.78	0.00%	7.00%	54.00%	39.00%	4.12	0.00%	0.00%	39.00%	61.00%	4.72
Usage	0.00%	15.89%	33.64%	50.47%	4.22	1.00%	0.00%	9.00%	90.00%	5.52	0.00%	0.00%	6.00%	94.00%	5.65
Punctuation/Capitalization	0.00%	16.82%	47.66%	35.51%	3.98	0.00%	9.00%	49.00%	42.00%	4.25	0.00%	0.00%	41.00%	59.00%	4.79
Spelling	1.87%	14.02%	41.12%	37.38%	4.04	0.00%	12.00%	49.00%	39.00%	4.19	0.00%	3.00%	22.00%	75.00%	5.05

Content and organization. In October, concerns with the following elements of scientific report writing were evident: explaining the problem (over 68 percent of the students neglected to do this and rated zero); organization (almost 58 percent of the students rated zero on this element); and discussing conclusions (almost three-quarters

(24.30 plus 48.60) of the students disregarded or scored low on this element). Failure to include diagrams was also a deficit.

January ratings improved somewhat. However, almost 56 percent of the students (29.00 plus 27.00) still did not clearly state the experimental problem. Papers also lacked organization (45 percent of the students did not attend to this element, scoring zero). Discussing the conclusions and implications of the experimental results also still seemed difficult for some students, with mean performance being 1.45 out of a possible 6. Failing to include diagrams was also still a deficit in January. Given the relatively low performance levels both in January and October, the May performance is remarkable. Instructional emphasis, however, must still be given to discussing conclusions/implications in a scientific report.

Mechanics and usage. In May, all of the mean scores for mechanics and usage were relatively high with mean percentage scores for sentence structure, usage, punctuation/capitalization and spelling being 4.72, 5.65, 4.79 and 5.05, respectively. An inspection of the October and January means and percentages supports the argument that at the Grade Five level, the writing conventions are all but mastered for the majority of students.

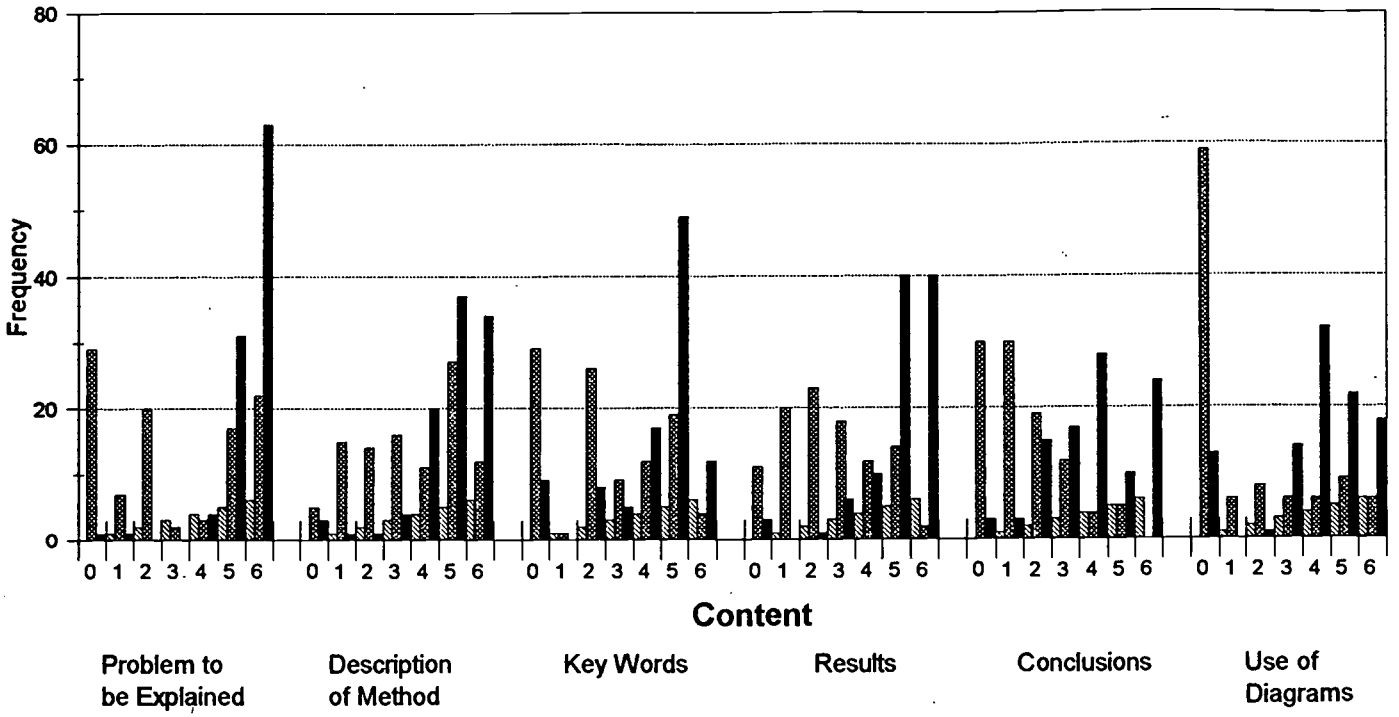
2) Frequency Counts (N = 102)

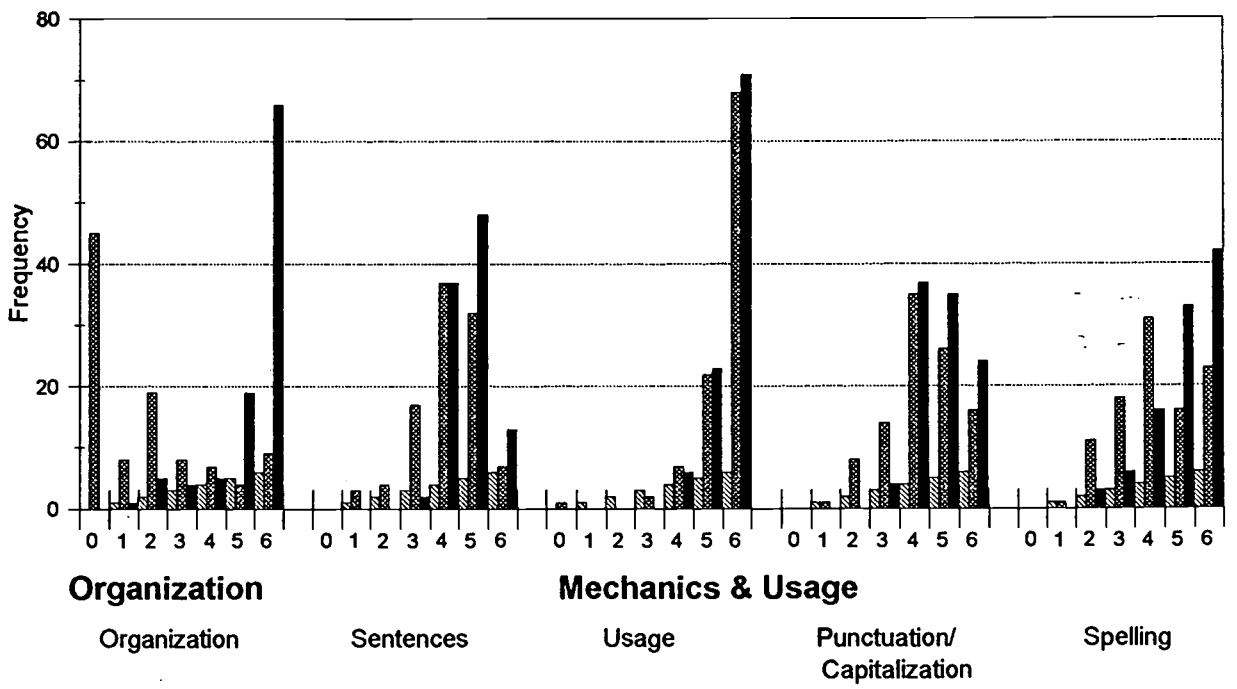
The frequency count analysis supports the results outlined above. There was considerable growth in writing proficiency over the course of the school year. As indicated in both the following table and the histogram on the next page, in May students successfully explained the experimental problem, organized their reports in a scientific fashion, used appropriate English, conventional spelling and punctuation and capitalization, employed varied sentence patterns and reported the results of the experiment, thus exhibiting mastery over the structural or organizational aspects of report writing. The results suggest, however, that an instructional emphasis must still be maintained on: 1) coming to a conclusion regarding the implications of the experimental findings; 2) developing diagrams to illustrate the apparatus; and 3) using key words to organize the experimental writing. The protocols in the next section exemplify the growth that occurred over the school year.

Scores for Sun Valley School: Grade 5

	October							January							May						
	0	1	2	3	4	5	6	0	1	2	3	4	5	6	0	1	2	3	4	5	6
Problem to be Explained	73	9	1	4	4	9	7	29	7	20	2	3	17	22	1	1	0	0	4	31	63
Description of Methods	45	12	12	23	6	4	5	5	15	14	16	11	27	12	3	1	1	4	20	37	34
Inclusion of Key Words	11	13	21	38	14	7	3	29	1	26	9	12	19	4	9	0	8	5	17	49	12
Inclusion of Results	2	10	19	12	16	20	28	11	20	23	18	12	14	2	3	0	1	6	10	40	40
Discussion of Conclusions	26	27	25	18	4	5	2	30	30	19	12	4	5	0	3	3	15	17	28	10	24
Use of Diagrams	87	8	3	7	0	2	0	59	6	8	6	6	9	6	13	0	1	14	32	22	18
Organization	62	21	7	11	4	0	2	45	8	19	8	7	4	9	0	1	5	4	5	19	66
Sentences	1	5	14	22	37	11	17	0	3	4	17	37	32	7	0	0	0	2	37	48	13
Usage	0	5	12	16	20	29	25	1	0	0	2	7	22	68	0	0	0	0	6	23	71
Punctuation/Capitalization	0	4	14	17	34	21	17	0	1	8	14	35	26	16	0	0	0	4	37	35	24
Spelling	2	5	10	15	29	18	22	0	1	11	18	31	16	23	0	0	3	6	16	33	42

Grade 5 Writing Histograms For: Fall, Winter, and Spring





III. Qualitative Analysis

The report of the Fall writing assessment presented in December revealed that students explained the procedure and reported the experimental results. They also used key words appropriately, but lacked a sense of audience as illustrated in the following excerpts.

The Most Slippery One

> ***We took a big board with some materials. The materials were a peice (piece) of metal from the bottem (bottom) of a chair, (a) plastic rectangle, a small wooden block, a small ceramic tile, and a whole eraser. Then we put all the objects on the big board and tilted the board. The objects were sliding down. I found out that the most slippery object would slide down first and the not really (slippery?) object would slide down last. The first object(s) to slide down first to last were 1st wood, 2nd wood, 3rd plastic, 4th tile, and the last one was the 5th eraser.***

This paper helps the reader understand the experimental procedure. There was a clear description of what was actually done in the experiment. Results were also reported. Although a title was given, the paper required a further introduction and a conclusion, as well as suggestions for practical implications. The reader was left with questions regarding **why** particular articles moved faster than others.

The alternate Fall writing prompt required students to investigate the effects of slope when the slopes were made of different materials such as wool or nylon. The following protocol is typical of the low-scoring papers. The major focus was on documenting the experimental results.

> ***When a paper clip goes down wool It's (it's) slower then (than) the others because the wool is thick. The paper clip is slower because of the thickness. the (The) paper clip went 2.77 seconds.***
>
> ***When a paper clip goes down the nolon (nylon) strig (string), it's very slippery and smoth (smooth). The nalon (nylon) is is almost thicker than the wool, and it also comes apart. It goes 1.19 seconds.***
>
> ***When a paper clip goes down the cotton it's pretty fast, the cotton is almost like a string but thicker (.) it (It) goes ,93 seconds.***
>
> ***When a paper clip goes down (the) fishing line it goes really***

fast, because it's skinny and the paper clip can go down easy. it (It) goes down .70 seconds.

While this student does an admirable job of explaining the results, almost all of the other elements of writing a scientific report are overlooked. A clear statement of the problem to be investigated and why that problem is of concern was required, as was a description of the experimental procedure, and a conclusion with suggestions for practical applications of the findings.

The following two protocols are both from the same student and show the increased writing achievement that occurred from January to May. The January prompt was to develop a scientific report on an experiment to test the effectiveness of a fire extinguisher concocted from baking soda and vinegar.

Fire Extinguisher

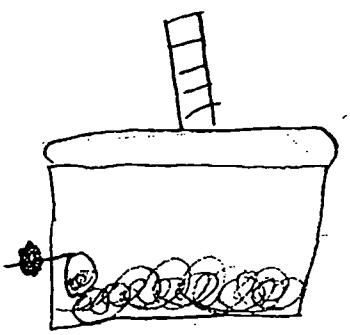
Question: does the Fire Extinguisher work

Hypothesis: Yes it can work

Material: 1 tessoon baking soda 1 medium cuntainer with tough lid and 1 straw with plastern 1 small cuntainer inside medium cuntainer glued in or screws in 1 garbge bag 1 candle 1 bucket 1 cup vinger

Obervations: light one candle pour 1 cup vinger in the medium cuntainer add baking soda in small cuntainer put lid on and put finger on the straw so it doesent squirt out when your ready take your finger off and tilt the cuntainer to it's side and after you did the experment hold the cuntainer upside down and dump the foam in the bucket

Conclusion! Yes the fire extingusher works.



In this protocol there was a statement of the problem, but the student seemed consumed with explaining the experimental procedure. The method or procedure was dealt with under observations. As outlined, the procedures are confusing. In addition, the student fails to explain either why the fire extinguisher works or what implications stem from the finding. The diagram is not labelled.

Evidence of growth is found in the second protocol which was written by the same student in May. The topic and purpose are identified and the report is better organized. Results as well as the practical implications are described. There is also a better diagram. The January protocol received a rating of 6 (middle range) while the May report was rated as 8 (still middle range).

The Force of Friction in Different Liquids

Problem: ***What liquid has the most friction?***

Hypothesis: ***I think that the oil was going the fastest.***

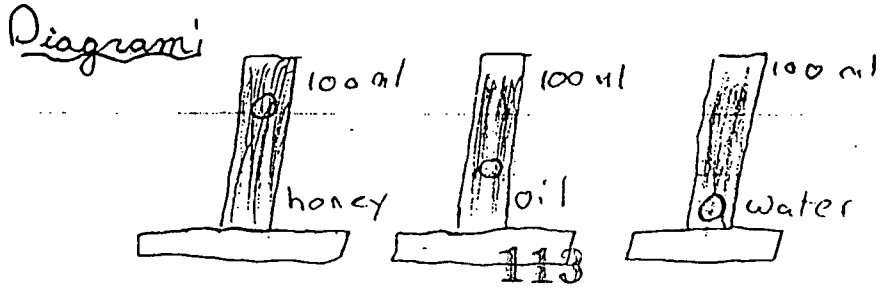
Material: ***The material we used was vegetable oil, water, honey and little jars and we also used testing tubes and 3 marbles.***

Procedure: ***1. The first thing we done was we tock the oil, honey, water and poured each of the liquide in different testing tubes.***
2. Then 3 people came up to drop the marble in the testing tubes.
3. After the marble was in all the testing tubes Mme put the honey, oil and water back into the three jars and closed the lid.

Observations: ***My hypothesis was wrong the water went the fastest the honey had the most friction because it went very slow in the kiquide honey.***

Conclusion: ***The first day all the liquids went very fast the water tock 2 seconds for the marble go down to the bottom the oil tock 54 mil the honey was the slosit it tock 56 seconds. The second day the water and oil were the same the honey tock longer it tock 1.03 seconds***

Application: ***If you chane on your bike is rusty put some vegitable oil on it so it will go faster if you use water on the chane the chane will get all rusty.***



The above example suggests that in May the student was much more comfortable writing scientific reports. S/he also seemed to understand her/his topic and has a framework for organizing her/his thinking. This is also true of the following example in which the student begins in a narrative vein. This last example is representative of a highly rated paper. The report is well organized, much clearer and more succinct than the preceding one. The writer has a sense of audience and explains the format of his/her report to the reader. The writer also seems at ease with the topic. No diagram is included, however.

What Lubricant's good

We are doing a experement on friction and we are trying to find out what lubricant work the best. We will use three different lubricants: Honey, oil, and water. In the experement I will have a title, introduction, a hypothesis, materials, steps, Observations, conclusion and an application.

Hypothesis

I think that the marble in the water will reach the bottom first because the water is thin.

Materials

3 marbles
3 test tubes
50 ml water
50 ml oil (vegetable)
50 ml Honey

Steps

We put 50 ml of water in the 1st test tube.
We put 50 ml of vegetable oil in the 2nd test tube
Then we put 50 ml of Honey in the 3rd test tube. We got 3 students to drop the marbles at the same time into the different test tubes.

Observations

When the teacher said 1, 2, 3 Go! The marble in the 1st test tube hit first then the one in the 2nd test tube. About 30 seconds later the 3rd marble hit.

Conclusion

My hypothesis was good! The marble in the water hit the bottom first. I was right because water is the thinnest, the oil is thicker and the honey is very thick. (sticky)

Application

I can market this experement by puting water in cars instead of oil so the part can move faster.

Summary and Discussion

The results of both the descriptive and statistical analysis indicate that significant gains in writing performance were made by the Grade Five students at Sun Valley. In May almost one-half of the papers (49 percent) were rated as high (9-12), while the other fifty percent received middle ratings (5-8). The one remaining paper received a rating of 4, overall indicating exceptional growth. Students seemed to have internalized the organizational pattern of scientific report writing and seemed comfortable with the genre. There were no significant differences in the performance of students in the French immersion program compared to the performance of students in the regular stream. In contrast to students in the comparison schools, the writing of students at Sun Valley showed significant positive differences

The results of the analytic trait scoring indicated that a continued instructional focus must be maintained on including labelled diagrams, using key words and coming to a conclusion regarding the implications of the experimental findings. The qualitative analysis showed that with an appropriate and sustained emphasis on process writing, student performance can be improved.

Summary of Findings

General Impression Ratings

The comparisons of the general impression ratings of the writing performance of students in each grade level at Sun Valley school indicated that students made significant gains in writing performance between October and May. In May, over 90 percent of the Grade Two students schools received middle (5 to 8) or high (9 to 12) ratings. Similarly, at the end of the year 89.02 percent of the Grade Three students obtained either middle or high ratings, a significant achievement given the difficulty

associated with writing compare/contrast text. Performance at the Grade Four level was even more outstanding with 94 percent of the students receiving general impression ratings that ranked either high (9 to 12) or middle (5 to 8). In May almost one-half of the Grade Five papers (49 percent) were rated as high (9-12), while the other fifty percent received middle ratings (5-8). The one remaining paper received a rating of 4, indicating exceptional growth overall. There were also no significant differences between the performance of students in the French immersion program and students in the regular stream, validating the Sun Valley writing instruction program.

Performance of the comparison schools. The writing performance of students at Sun Valley was especially remarkable given the performance of students in the two comparison schools. At all grade levels, the performance ratings at Sun Valley were significantly higher than the performance ratings of students in the two comparison schools, both the rural and other suburban school.

Analytic Trait Scoring

Grade Two. The results of the analytic trait scoring showed that Grade Two students made gains in: 1) identifying their topic, maintaining their topic and explaining their writing purpose (87 of the 103 students received a 5 or 6 on this criteria); 2) providing more concrete details and elaborating on their topic in greater depth; 3) choosing better words to convey ideas, 4) organizing their papers, 5) using correct grammar and 6) improving their ability to spell and use correct punctuation and capitalization. These results support the sustained process approach to writing that Sun Valley Grade Two teachers provided this school year.

Grade Three. The analytic trait scoring results for Grade Three revealed that students had mastered: 1) identification of topic and purpose; 2) explaining how the two things being compared were different; 3) the use of key words (both, however, while, on the other hand); and 4) how to organize compare/contrast writing. Students seemed to have a much better sense of audience. While there was considerable growth both in incorporating details regarding how the topics were similar and in drawing the paper to an appropriate conclusion, the results suggest that for some students these two areas require continued instructional emphasis. Regardless, the overall growth in being able to compose informative compare/contrast text exceeded all expectations. The quality of students' writing demonstrates significant mastery over the genre.

Grade Four. The analytic trait scoring for Grade Four showed that students exhibited considerable expertise in: 1) identifying both their topic and their purpose for writing, 2) the use of key words (first, next, then, after that); and 3) mechanics and usage. Remembering to include diagrams, providing the explanation in the correct sequence, and organizing the explanation require continued instructional emphasis.

sequence, and organizing the explanation require continued instructional emphasis. Generally, however, the mean scores for each analytic trait suggest that an appropriate instructional focus for process writing has been maintained. Further evidence to support the high quality of the end-of-year writing is contained in the protocols themselves which reflect not only the bona fide nature of the communication but also a lack of artificiality.

Grade Five. Students seemed to have internalized the organizational pattern of scientific report writing and seemed comfortable with the genre. The results of the analytic trait scoring indicated that students had developed expertise in: (1) explaining the problem; (2) describing the results; (3) organizing their writing; (4) using correct English grammar; and (5) spelling. The analytic trait scoring indicated, however, that an instructional focus must be maintained on including labelled diagrams, using key words and coming to a conclusion regarding the implications of the experimental findings. The qualitative analysis showed that with an appropriate and sustained emphasis on process writing, student performance can be improved.

Conclusions and Recommendations

The outstanding writing performance exhibited by Sun Valley students at all participating grade levels validates the writing instruction program at Sun Valley school. Both the quantitative and qualitative analysis indicate that students had developed both a sense of audience and fluent writing skills.

Recommendation. Maintain the tradition developed at Sun Valley school which emphasizes a process approach to writing. Continue to: (1) provide students with real writing purposes; (2) use the computer network systems (both LAN and WAN) to provide authentic audiences; and (3) work on the traits identified through the analytic rating evaluations.

PART III - TEACHER INTERVIEW RESPONSES

In December, a report describing the results of the preliminary reading and writing assessment carried out in October was distributed to classroom teachers. The report identified achievement levels and made detailed instructional recommendations. (See Zakaluk, 1994.) In April and June both the classroom and resource teachers as well as the school administrator, who functions as an instructional leader, were interviewed to determine their views regarding: 1) the effects of the assessment program on both their teaching and their students' learning; and 2) the merits of the reading and writing assessment program itself. The interviews were conducted in groups: first the Grade Two and Three teachers, and then the teachers from Grades Four and Five. The Primary and the Intermediate resource teachers and the school administrator were interviewed separately. Retrospective interviews with individual classroom teachers and the school administrator were also held in July and August to confirm the data. The results of the interviews are presented in the following discussion, first as they pertain to the reading assessment and second as they pertain to writing. The questions for inquiry were:

What effect did the assessment program have on teaching and learning/ and

What are the merits of the Sun Valley assessment program?

Reading

I. Effect on the Instructional Program

For students identified as being either low-achievers or having a discrepancy of 5 or more T-score units between performance on the vocabulary and comprehension subtests on the Gates-MacGinitie, the preliminary report recommended further diagnostic testing. Assessing student's reading individually using the informal reading inventory would verify whether the student's problem was due primarily to word recognition or to comprehension.

Instructional Recommendations

For those students still struggling with word recognition, one of the instructional recommendations included reinforcing the word recognition skills students already

possess during authentic reading and writing events. Sun Valley school already has such a literature-based reading program in place. Within this context, for the targeted students extensive scaffolding was suggested in which the teacher models and demonstrates metacognitive or fix-up strategies while the students are engaged in actual reading. It was also recommended that direct instruction in how words form be given either in the form of "on-the-spot" instruction during mini-lessons or during spelling period, using the words encountered during reading and writing activities. Writing as a vital component of the reading program was also advocated. For those students requiring more intensive programming, paired or repeated reading using resource personnel, parents and/or volunteers was recommended.

Interview Findings

Primary grades. For students in the primary grades, intensive efforts were made first to ensure that the materials students were reading were at their instructional level; that the number of difficult words students encountered did not exceed between 5 and 10 percent of the running words. The division's reading clinician presented an inservice on how to conduct a directed reading lesson (DRA or Directed Reading Activity). A fundamental part of the DRA is to teach "on-the-spot" metacognitive strategies by modeling and demonstrating "what to do" when encountering an unknown word. The focus in word identification was on "direct instruction" to enable students to apply not only meaning and their sense of language, but also their knowledge of word structure and knowledge of the letter/sound associations as cues for unlocking unknown words. Among the "fix-up" strategies emphasized were: 1) monitoring for meaning - if what you are reading does not make sense, go back and re-read; 2) using language as an aid to decoding - read to the end of the sentence to see what word would fit; 3) combining both meaning and the initial consonant(s) - what word beginning with that/those letter(s) would make sense; and 4) looking for structural clues or root words.

Comprehension continued to be an instructional focus using DR-TA (Stauffer, 1969) with emphasis on: before reading activities such as having students tell what they already knew about the topic, making links between the topic, characters and personal experiences, and predicting what the text would be about; during reading activities such as checking and confirming predictions and making links between events in the text and personal experiences; and after reading activities such as retelling what was remembered, re-reading, reflecting, rethinking and interpreting the reading. Writing was also a feature of the after reading activities for low-achievers. Under the guidance of the Primary Grade Resource Teacher, students composed their own answers to comprehension questions using the question stem to help formulate answers. There were no multiple-choice workbook activities instituted for correction and remediation.

Under the direction of the Resource teacher, low-achieving students also wrote

stories, creating their own story books for publication. At the primary level, story structure, that stories need a beginning, middle and end, was emphasized. A home reading program, paired reading using volunteer moms, and a cross-grade reading partners program were also instituted to strengthen reading achievement.

Celebrate Reading. Ongoing assessment of students' progress took place. It was evident that students were applying the metacognitive word identification strategies they were being taught, but that more practice to integrate their application was necessary. Under the guidance of the administrator, a June "after-four" meeting to "Celebrate Reading" and launch a summer "paired reading" reading program (Topping, 1991) was instituted. The parents, grandparents and siblings of the underachieving students were invited. Prior to the meeting, the Primary Grades Resource teacher compiled "book packs" of highly rated children's literature selections, two of which had accompanying audiotapes, for distribution to the families.

The school administrator welcomed the guests and explained the purpose of the "Celebration", illustrating what the students knew, the role of practice in developing reading fluency and the important role that parents can play in supporting children's reading efforts. The "paired reading" support strategies were demonstrated to the large group by the Primary Grade Resource Teacher with an emphasis on both responding appropriately to the child's word recognition difficulties and discussing the ideas in the book. Then the students and their families met in a small group with their respective classroom teachers for further modeling and practice. After refreshments, the summer reading "book packs" were distributed.

Intermediate grades. The administrator, and the Intermediate Grade Resource Teacher met with the intermediate classroom teachers as a group in January to discuss appropriate instructional programming for the students who had been identified through the Gates-MacGinitie as experiencing reading difficulty. Motivation was perceived to be a major problem. A decision was made to adopt a "projects" approach to remediation in which students identified and pursued their own research topics over the course of the Winter and Spring terms, thus ensuring that students would assume ownership and became engaged in their own learning. Students made oral presentations of each research project to the other students in their class as a culminating activity. They thus became "resident experts" on their topics, helping to boost their self-esteem.

Students were not singled out during their work on the projects because at the same time that they were carrying out their research, their classmates were also absorbed in conducting research. The difference was that the targeted students were carefully monitored and received sustained support throughout their projects from the Intermediate Grade Resource Teacher and the Teacher-Librarian.

For those students still experiencing word recognition difficulties, words from the Glass Analysis program (Glass, 1978) were entered into a computer program which in turn was made available to classrooms through the school network (LAN). By accessing and working with the Glass Analysis words, students became more familiar with segmenting words into their component parts and learning how words form.

At the intermediate level, students were also very involved creating their own CD-Rom storybooks for others to read, especially Primary Grade students. In the flyleaf, students included an "About the Author" page and thus were motivated to compose their own autobiographies.

Effects

The results of the Spring administration of the alternate forms of the Gates-MacGinitie indicated reading achievement gains for students who initially scored at lower levels, suggesting that the intensified efforts of the school's instructional team to meet the needs of low-achievers had been successful.

II. Views on the School-Wide Reading Assessment Project

Both Primary and Intermediate level classroom teachers reported that they appreciated receiving the standardized test results because the results confirmed their personal assessments of students' progress. Teachers felt that the standardized test results added credibility to the personal judgments they had already made about the performance of particular students. They used the standardized test results as baseline data to monitor progress and shared the test results at parent-teacher conferences. In June, when teachers had the results of both the Fall and Spring reading assessments, there was a positive sense of accomplishment regarding the progress that students had made during the instructional year that had a beneficial effect on the school climate. For both students and teachers, there was a general feeling of pride and fulfilment.

Teachers believed that now that they had obtained this baseline data regarding reading achievement, in the future to monitor student progress they would only need to administer the standardized test in the Spring of the year. The teachers were in favour of maintaining the standardized reading assessment program because they appreciated learning about how the reading performance of their students compared to the reading performance of other students in Canada. Teachers also found the information that identified students as reading at, above, and below grade placement level helpful. When the Faculty Committee met in June, they decided that they would group students for instruction in the 1995-96 school year so that they would be in a better position to meet individual needs in the upcoming term. Next year for novel

study, one teacher will be linking up with other schools on the internet to share responses to reading.

Summary of Findings

Teachers: 1) appreciated receiving the standardized test results because the data: confirmed their personal assessment of student performance; identified students who were reading at, below, and above grade level; compared the reading achievement of their students with the performance of students in other Canadian schools; and were useful in reporting to parents. Sharing the standardized test results added to teachers' sense of professionalism.

2) When the results of the May assessment showed that students had made significant gains in reading achievement over the course of the school year, teachers were highly pleased. There was a corresponding beneficial effect on the school climate.

Recommendations.

1) Now that baseline data regarding students' reading achievement is available from the Spring assessment, in the future, it is only necessary to administer the standardized test each Spring.

2) Grouping students for instruction should be considered in order to serve individual needs.

Writing

Teachers received the December report of the Writing assessment early in January. The instructional recommendations suggested that while mechanics and usage scores were a source of concern, based on the premise that form follows function, the first instructional focus needed to be on content and organization. Sentence structure, usage, punctuation and capitalization, as well as spelling could be attended to within this larger framework through mini-lessons and through student self-evaluation within the context of celebrating authorship and editing for publication. Self-monitoring for adherence to mechanical conventions, spelling and usage through the use of checklists was advocated.

Teachers were also advised that a number of studies (Scardamalia & Bereiter, 1986; Graham & Harris, 1989; Englert, Raphael & colleagues, 1992; Oxenham, 1993) have shown that low-achieving students respond to instructional intervention and are able to enhance the quality of their writing of informative text. Among the elements of successful teaching interventions have been: the modeling of self-talk; the institution

of planning routines; and peer and self-evaluation as well as practice.

Although there were variations depending upon the type of informative text (whether the task was to write a description, compare and contrast two topics, explain "how to", or compile a scientific report), the following general suggestions were made for enhancing the quality of students' informative writing:

1. Use of the overhead projector for total class analysis and group rewriting of inadequate papers that failed to meet the particular grading criteria, based on the premise that this activity helps students find voice, provides them with a language to talk about language and helps students understand organizational patterns. The question students needed to address in their critique was: "How can we make this paper more effective?"

2. The use of "think sheets" to help students develop a sense of audience and to organize their writing.

3. Continued use of conferencing - to provide feedback so that the writers realize they need to be more explicit in identifying their topic and purpose. Modeling how to respond in a conference was advocated as was providing students with feedback sheets to enhance the conferencing effectiveness.

4. Reference to the work of published authors of informational text - The use of published work as a model regarding how commercially published authors: introduce topics effectively, explain the writing purpose, organize their ideas and bring their papers to a satisfying conclusion was advised based on the premise that reading can inform writing.

5. The provision of self-editing checklists to help students evaluate their own writing for mechanics, spelling and usage. Having students assume responsibility for self-editing before sharing their papers with others would reduce the onerous nature of this task.

6. Continued celebration of authorship by making the purpose for writing authentic. Provide different contexts and forums for making finished papers public, such as: the use of coloured paper, bulletin board frames, booklets, class albums and having students select their best papers for inclusion in personal portfolios. Integrating writing within content area themes and writing to students and/or adults in other jurisdictions though the internet were other recommendations to make the writing purpose authentic.

I. Effect on the Instructional Program

Process approach. Teachers were already using a process approach to writing

instruction in which students compose several drafts and conference about their writing. In addition, teachers were providing authentic purposes for writing because the informative writing was so strongly linked either to the science/health or social studies curriculum. One teacher had students communicating through the internet with students in Australia. Students analyzed the descriptions of what it was like to live in Perth according to whether students were talking about the geographic location, the climate, the tourist attractions, transportation modes or industries. In their replies, the Sun Valley students then used these categories to compare and contrast living in Winnipeg and living in Perth.

Teaching informative writing. The staff at Sun Valley had implemented a comprehensive approach to teaching informative writing. Among the instructional approaches already in place were the use of: concept mapping; focusing strategies such as nutshelling and elaboration strategies for writing descriptions, comparisons, and writing persuasions, and conclusions. Formats for report writing in science and for general information, and for writing biographies and essays served as organizational guidelines. Accompanying these formats were sets of strategies to provoke and guide thinking. Depending upon the mode of inquiry, these strategies emphasized: asking questions, gathering information, conducting investigations and drawing conclusions. A workshop on how to help students improve their writing was also held to reinforce these teaching strategies.

Home writing programs. At the Grades Two and Four levels, home writing programs for which students "signed-up" were in place. For Grade Two, students could sign out "back packs" that consisted of activity books. Students completed one or more activity from the books, making a kite or a pizza, for example, and then wrote about completing the activity. At the Grade Four level, kits containing a series of informative passages on selected topics were made available. Students read and summarized the information in these excerpts which led up to the compilation of a report on the subject which was shared at school.

Computer software. Students had access to computers for both composing and revising. A workshop on how to use the computer to augment the writing program was also given. During instruction, teachers used a computer program (Knowledge Builder 1.5) extensively. Knowledge Builder has many features, such as: 1) draftwriter - a word processing program; 2) organizer - which allows students to set up concept maps or outlines and make notes; and 3) paint tools and a publisher which combine graphics and text. A second software program (Knowledge Builder 2.0) was used for producing talking books. Knowledge Builder 2.0 enables writers to integrate sound, graphics, quick time movies and colour. Another software program, Co-writer, supports the writing and spelling of low-achieving students.

The school has a LAN local area computer network so that students from different classrooms throughout the school are able to work together and conduct writing conferences. In addition, the school uses the WAN (Wide Area network) to enable their students to work with students in other schools on a common project, thus providing an authentic audience. Business partners were also accessed through the WAN network. Students wrote to university professors, the Royal Bank and the "Label Place". Specialist audiences in these centres took an interest in students' work, and provided "expert" input that enriched the school's programs for both students and teachers.

Effects

The results of the writing assessment for General Impression Scoring showed that statistically significant gains were made in writing performance between October and January and between January and May. There were no statistically significant differences between the performance of students in the French immersion and the regular program. Furthermore, when the performance of Sun Valley students was compared to the performance of students in a rural and matching suburban school, the performance of Sun Valley students at all grade levels statistically exceeded the performance of the students in the two other schools.

The results of the analytic trait scoring in May indicated relative mastery at all grade levels over the writing conventions as well as organization and topic identification. At the grade Two level in May, students were elaborating more and using more vivid words. At the Grade Three level, students were better at describing how things were different and using key words. Students in Grade Four exhibited mastery over sequencing, and Grade Five students had routinely begun to identify the experimental problem and report experimental results. These outcomes together with the rich and varied writing activities suggest that the instructional program at Sun Valley school is dynamic and effective.

II. Views on the School-Wide Writing Assessment Project

Focus on one genre. During the teacher interviews, discussion centred upon the fact that because of the burden of collecting so many different writing samples, the assessment project focused on only one type of writing for each grade - descriptions for Grade Two, compare/contrast text for Grade Three, exposition or "How To" writing for Grade Four and scientific reports for Grade Five. This meant that during the 1994-95 school year only one type of writing, to the exclusion of others, was emphasized in each grade. The counter argument was that continued focus over time is necessary if the goal to develop mastery over a particular genre is to be attained. Students need to become proficient in writing a particular text type before attempting another genre.

Otherwise their knowledge will be only superficial.

Continuity across grade levels. Teachers also felt that to develop competence in writing one type of text requires constant reinforcement. When the testing program focused on the writing of only one type of text, it was submitted that students who had mastered the art of writing descriptions in Grade Two, for example, would lose this competence in Grade Three because only the writing of compare/contrast text would be emphasized. This discussion was resolved with the conclusion that teachers need to reinforce the types of writing mastered in previous years. Writing descriptions could be a starting point in teaching compare/contrast writing in Grade Three, for example. Instruction in compare/contrast writing could begin with choosing one topic, identifying related categories and then elaborating on them. Two different topics to compare and contrast could then be introduced. Teachers were also concerned about the need to maintain a curricular focus on informative writing at middle and senior levels and thought that the central office needed to institute curricular continuity throughout the grade levels.

Formal versus portfolio assessments. The effect of different writing prompts on the quality of students' writing was also raised as an important assessment issue. The assessment project had tried to neutralize this effect by counterbalancing prompts with one-half of the students writing on each prompt in the Fall and reversing the prompts in the Spring. An alternative to obtaining one sample at one point in time to use in assessing students' writing would be to choose a piece of writing from the student's writing portfolios. This idea was rejected, however, because the writing would be on diverse topics. When students respond to a common prompt their writing is easier to judge and it is easier to apply the same standards in grading the samples. Teachers at the Grade Five level identified the need to have a writing prompt to accompany each science topic so that they could integrate the teaching of writing with the teaching of Science and systematically monitor student's progress in writing.

Rating writing. A Fall workshop on writing evaluation had been provided. Teachers were of the opinion that learning how to rate students' writing for general impression and to score papers for analytic traits was empowering. Receiving the results of the Fall assessment helped teachers to identify: 1) students who required more support during writing instruction; and 2) what to emphasize during instruction - for example, identifying the topic, stating the writing purpose, using key words, and drawing the paper to a close.

Instruction. Critiquing inadequate papers was also found to be beneficial, as was the use of "think sheets" to help organize the writing. The school staff were especially appreciative of the writing samples gained from the Fall assessment. These were ideal for use in instruction both to teach what elements needed to be included in an ideal

paper and to help students verbalize their ideas. Brainstorming and creating semantic webs to organize ideas were also viewed as important prewriting activities. The reading involved in creating and sharing writing efforts was perceived as beneficial to enhancing reading achievement.

Exemplars. The school staff were also committed to maintaining writing standards. They appreciated the range finders as exemplars in helping them to rate students' papers. (See appendix for a list of exemplars or range finders that pertain to each Grade level and the respective writing genres.) The Faculty Committee is advocating that a common prompt be used in the Fall of 1995 to assess students' writing competence and serve as baseline data to monitor progress over the 1995-96 school year.

Summary

1. The current instructional approach to teaching writing is rich, dynamic and varied. One of its greatest strength lies in the provision of authentic purposes for writing. Students did not need prodding to complete their writing assignments. Communicating with real persons was motivation enough.

2. The issue of focusing on only one type of writing for purposes of assessment was resolved with the recognition that emphasis over time is necessary to achieve mastery.

3. A consensus was reached that previously taught informative text structures can also serve as a base for introducing new text forms, but that the various text structures (description, compare/contrast, exposition and scientific report writing) require continued reinforcement.

Recommendations

1. Formal assessments with all students in the same grade responding to the same prompt is recommended over or together with portfolio assessments because it is easier to maintain rating standards when the prompt is the same.

2. Create a collection of writing prompts to correspond with each content area topic.

3. Compile a set of exemplars matching each general impression rating level: low, middle and high. (See Appendix.)

4. The administration needs to facilitate continuity of instruction which must be maintained across the grade levels.

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APPENDICES

TABLE OF READING SCORES

				Vocabulary			Comprehension			Total		
S	T	Gr	ID	T-Score	ESS	GE	T-Score	ESS	GE	T-Score	ESS	GE
1	1	2	2	51	402	2.2	49	366	2.0	50	389	2.1
1	1	2	3	58	432	2.7	59	438	3.1	58	434	2.8
1	1	2	4	65	461	3.6	57	400	2.4	59	436	2.8
1	1	2	5	54	413	2.4	62	458	3.5	58	430	2.7
1	1	2	6	46	376	1.7	50	371	2.1	48	376	1.9
1	1	2	7	57	428	2.6	50	375	2.1	54	410	2.4
1	1	2	8	46	376	1.7	44	326	1.6	44	356	1.7
1	1	2	9	36	327	1.0	45	334	1.7	41	342	1.6
1	1	2	10	43	361	1.5	45	334	1.7	43	353	1.7
1	1	2	12	69	477	4.2	71	504	5.2	71	493	4.6
1	1	2	13	30	275	0.0	51	380	2.2	44	359	1.7
1	1	2	14	55	420	2.5	53	395	2.3	54	413	2.5
1	1	2	15	71	485	4.4	68	477	4.2	69	487	4.4
1	1	2	16	60	440	3.0	59	438	3.1	59	438	2.9
1	1	2	18	64	458	3.5	64	467	3.7	64	460	3.5
1	1	2	19	36	327	1.0	34	238	0.0	33	305	1.3
1	1	2	20	33	301	0.0	33	221	0.0	30	286	1.2
1	1	2	21	59	436	2.8	64	467	3.7	60	444	3.1
1	1	2	23	33	301	0.0	43	318	1.5	38	326	1.5
1	1	2	24	57	428	2.6	57	427	2.7	57	429	2.7
1	1	2	25	47	382	1.8	58	432	2.8	53	404	2.3
1	1	2	26	27	264	0.0	27	107	0.0	27	248	0.0
1	1	2	27	55	420	2.5	50	371	2.1	53	404	2.3
1	1	2	28	51	402	2.2	56	421	2.7	54	412	2.4
1	1	2	29	43	361	1.5	50	375	2.1	47	374	1.8
1	1	2	30	33	301	0.0	27	119	0.0	27	239	0.0
1	1	2	31	48	387	1.9	30	204	0.0	38	330	1.5
1	1	2	32	58	432	2.7	64	467	3.7	60	442	3.1
1	1	2	33	43	361	1.5	47	352	1.9	45	361	1.7
1	1	2	34	67	465	3.7	64	467	3.7	66	468	3.7
1	1	2	35	41	351	1.4	44	326	1.6	42	346	1.6
1	1	2	36	50	394	2.1	53	395	2.3	51	396	2.2
1	1	2	37	27	264	0.0	27	170	0.0	27	239	0.0
1	1	2	39	41	351	1.4	44	326	1.6	42	346	1.6
1	1	2	40	59	436	2.8	52	390	2.3	56	419	2.5
1	1	2	41	47	382	1.8	38	284	1.2	42	346	1.6
1	1	2	42	38	340	1.2	48	357	1.9	44	359	1.7
1	1	2	44	69	477	4.2	69	489	4.5	69	487	4.4
1	1	2	45	53	407	2.3	47	352	1.9	50	387	2.1
1	1	2	46	49	391	2.0	49	366	2.0	49	381	2.0
1	1	2	47	68	470	3.8	64	467	3.7	67	472	3.8
1	1	2	48	52	405	2.3	58	432	2.8	55	417	2.5
1	1	2	49	55	420	2.5	54	405	2.5	55	417	2.5
1	1	2	50	51	400	2.2	57	427	2.7	54	412	2.4
1	1	2	97	61	447	3.2	57	425	2.7	59	436	2.8
1	1	2	98	45	370	1.6	50	373	2.1	48	378	1.9
1	1	2	99	46	377	1.7	46	343	1.8	45	363	1.7
1	1	2	100	56	425	2.6	63	460	3.6	59	438	2.9
1	1	2	101	59	436	2.8	61	453	3.4	60	442	3.1
1	1	2	102	34	313	0.0	50	373	2.1	45	363	1.7
1	1	2	103	51	398	2.1	47	349	1.8	47	371	1.8
1	1	2	104	73	501	5.1	71	504	5.2	73	510	5.3
1	1	2	105	57	428	2.6	65	470	3.8	60	442	3.1
1	1	2	106	49	391	2.0	49	362	2.0	48	380	1.9
1	1	2	107	49	391	2.0	56	420	2.6	53	404	2.3
1	1	2	108	67	467	3.7	63	460	3.6	66	467	3.6
1	1	2	109	49	391	2.0	53	398	2.4	52	397	2.2
1	1	2	110	60	443	3.1	73	531	6.2	63	459	3.5
1	1	2	111	51	398	2.1	39	293	1.3	45	363	1.7
1	1	2	112	71	489	4.5	61	453	3.4	68	476	4.0
1	1	2	113	59	436	2.8	56	420	2.6	57	429	2.7
1	1	2	114	39	346	1.3	46	343	1.8	43	350	1.7
1	1	2	115	52	404	2.2	61	453	3.4	57	425	2.6
1	1	2	116	53	407	2.3	55	409	2.5	54	410	2.4
1	1	2	117	68	472	3.9	65	470	3.8	66	476	4.0
1	1	2	118	68	472	3.9	71	504	5.2	69	487	4.4
1	1	2	119	54	414	2.4	58	430	2.8	56	421	2.6
1	1	2	120	61	447	3.2	65	470	3.8	62	453	3.3
1	1	2	121	53	407	2.3	45	336	1.7	48	380	1.9
1	1	2	122	37	336	1.2	46	343	1.8	42	346	1.6
1	1	2	123	43	363	1.5	49	369	2.0	47	374	1.8
1	1	2	124	49	391	2.0	47	349	1.8	48	376	1.9
1	1	2	125	58	432	2.7	55	409	2.5	56	423	2.6
1	1	2	126	50	395	2.1	51	382	2.2	51	393	2.2
1	1	2	127	63	454	3.4	58	434	2.9	60	444	3.1
1	1	2	128	50	395	2.1	51	382	2.2	51	393	2.2
1	1	2	129	53	407	2.3	52	392	2.3	53	404	2.3
1	1	2	60	43			53			48		
1	1	2	61	53			68			57		
1	1	2	62	57			57			57		
1	1	2	63	48			53			50		
1	1	2	64	62			68			62		
1	1	2	65	58			57			57		
1	1	2	66	65			59			61		
1	1	2	67	69			73			73		
1	1	2	68	53			59			56		

			Vocabulary			Comprehension			Total		
T	ID	T-Score	ESS	GE	T-Score	ESS	GE	T-Score	ESS	GE
2	2	53	451	3.3	54	460	3.6	53	453	3.3
2	3	55	458	3.5	54	460	3.6	54	459	3.5
2	4	59	472	3.9	61	504	5.2	60	487	4.4
2	5	67	501	5.1	68	531	6.2	69	520	5.6
2	6	42	398	2.1	40	354	1.9	39	380	1.9
2	7	71	517	5.6	53	453	3.4	60	487	4.4
2	8	46	421	2.5	50	434	2.9	48	427	2.7
2	9	43	404	2.2	51	442	3.2	47	421	2.6
2	10	42	401	2.2	44	387	2.3	43	398	2.2
2	12	67	501	5.1	68	531	6.2	69	520	5.6
2	13	45	414	2.4	53	453	3.4	49	431	2.7
2	14	56	462	3.6	68	531	6.2	59	481	4.2
2	15	71	517	5.6	57	484	4.4	66	510	5.3
2	16	53	451	3.3	50	434	2.9	51	442	3.1
2	18	59	472	3.9	57	484	4.4	59	481	4.2
2	19	34	355	1.4	44	387	2.3	39	380	1.9
2	20	46	421	2.5	51	438	3.1	49	429	2.7
2	21	67	501	5.1	57	484	4.4	63	501	4.9
2	23	42	398	2.1	42	373	2.1	41	391	2.1
2	24	54	454	3.4	49	425	2.7	51	440	3.0
2	25	56	462	3.6	68	531	6.2	59	481	4.2
2	26	40	387	1.9	44	382	2.2	41	389	2.1
2	27	53	447	3.2	49	425	2.7	50	436	2.8
2	28	56	462	3.6	68	531	6.2	59	481	4.2
2	29	55	458	3.5	55	470	3.8	55	463	3.6
2	30	43	407	2.3	39	343	1.8	40	383	2.0
2	31	42	398	2.1	55	470	3.8	48	425	2.6
2	32	60	479	4.2	57	484	4.4	60	487	4.4
2	33	45	417	2.5	49	425	2.7	47	421	2.6
2	34	60	479	4.2	55	470	3.8	59	481	4.2
2	35	46	421	2.5	53	453	3.4	50	434	2.8
2	36	52	443	3.1	53	453	3.4	52	446	3.2
2	37	34	355	1.4	37	328	1.6	34	346	1.6
2	39	43	404	2.2	45	392	2.3	43	402	2.3
2	40	56	462	3.6	57	484	4.4	57	471	3.7
2	41	48	428	2.6	55	470	3.8	51	442	3.1
2	42	43	404	2.2	44	387	2.3	43	400	2.3
2	44	67	501	5.1	71	569	7.9	71	531	6.2
2	45	57	467	3.7	55	470	3.8	57	471	3.7
2	46	67	501	5.1	61	504	5.2	66	510	5.3
2	47	67	501	5.1	68	531	6.2	69	520	5.6
2	48	53	447	3.2	51	442	3.2	52	444	3.1
2	49	60	479	4.2	52	447	3.3	56	467	3.6
2	50	54	454	3.4	55	470	3.8	54	459	3.5
2	97	54	455	3.4	55	467	3.7	54	457	3.4
2	98	55	458	3.5	49	421	2.7	51	442	3.1
2	99	44	410	2.3	47	410	2.5	45	413	2.5
2	100	54	455	3.4	50	432	2.8	52	444	3.1
2	101	60	477	4.2	66	524	5.8	63	500	4.8
2	102	45	413	2.4	43	380	2.2	44	404	2.3
2	103	50	436	2.8	47	410	2.5	48	427	2.7
2	104	73	535	6.4	61	504	5.2	71	525	5.8
2	105	58	470	3.8	55	467	3.7	57	472	3.8
2	106	42	397	2.1	46	405	2.5	43	402	2.3
2	107	50	436	2.8	55	467	3.7	52	444	3.1
2	108	73	535	6.4	49	427	2.7	56	468	3.7
2	109	43	407	2.3	46	400	2.4	45	408	2.4
2	110	58	470	3.8	71	550	7.1	63	500	4.8
2	111	45	413	2.4	45	390	2.3	45	408	2.4
2	112	69	513	5.5	58	489	4.5	66	508	5.3
2	113	54	455	3.4	58	489	4.5	56	464	3.6
2	114	53	451	3.3	46	400	2.4	49	430	2.7
2	115	49	432	2.7	58	489	4.5	52	447	3.2
2	116	51	440	3.0	56	477	4.2	52	449	3.3
2	117	69	513	5.5	66	524	5.8	71	525	5.8
2	118	62	485	4.4	66	524	5.8	66	508	5.3
2	119	60	477	4.2	53	458	3.5	57	472	3.8
2	120	57	465	3.7	58	489	4.5	58	476	4.0
2	121	53	451	3.3	53	451	3.4	52	449	3.3
2	122	43	402	2.2	47	410	2.5	45	408	2.4
2	123	45	413	2.4	52	444	3.3	48	427	2.7
2	124	43	407	2.3	48	416	2.6	45	413	2.5
2	125	66	497	4.8	49	421	2.7	54	457	3.4
2	126	45	413	2.4	52	444	3.3	48	427	2.7
2	128	53	451	3.3	52	444	3.3	52	447	3.2
2	129	58	470	3.8	55	467	3.7	57	472	3.8
2	60	39	382	1.8	48	415	2.6	43	398	2.2
2	61	56	462	3.6	55	470	3.8	56	467	3.6
2	62	52	443	3.1	52	447	3.3	52	444	3.1
2	63	50	436	2.8	51	438	3.1	50	436	2.8
2	64	57	467	3.7	52	447	3.3	54	459	3.5
2	65	55	458	3.5	55	470	3.8	55	463	3.6
2	66	60	479	4.2	54	460	3.6	58	476	4.0
2	67	59	472	3.9	61	504	5.2	60	487	4.4
2	68	47	425	2.6	51	438	3.1	49	431	2.7
2	69	63	489	4.5	68	531	6.2	66	510	5.3

1	1	2	69	55	68	57	2	70	57	467	3.7	57	484	4.4	58	476	4.0
1	1	2	70	62	54	57	2	71	54	454	3.4	52	447	3.3	53	451	3.3
1	1	2	71	46	47	46	2	72	71	517	5.6	57	484	4.4	66	510	5.3
1	1	2	72	69	73	73	2	73	53	451	3.3	61	504	5.2	55	463	3.6
1	1	2	73	43	59	49	2	74	43	407	2.3	50	430	2.8	46	417	2.5
1	1	2	74	47	53	49	2	75	50	436	2.8	53	453	3.4	51	442	3.1
1	1	2	75	58	55	57	2	76	41	391	2.0	53	453	3.4	46	417	2.5
1	1	2	76	43	46	44	2	77	60	479	4.2	51	438	3.1	54	459	3.5
1	1	2	77	65	62	62	2	78	45	417	2.5	51	442	3.2	49	429	2.7
1	1	2	78	50	51	50	2	79	51	440	3.0	55	470	3.8	52	448	3.2
1	1	2	79	50	50	49	2	80	55	458	3.5	57	484	4.4	56	467	3.6
1	1	2	80	56	52	55	2	81	48	428	2.6	55	470	3.8	51	442	3.1
1	1	2	82	53	55	55	2	82	52	443	3.1	53	453	3.4	52	446	3.2
1	1	2	83	51	52	52	2	83	42	401	2.2	46	403	2.4	44	404	2.3
1	1	2	84	53	53	55	2	86	48	428	2.6	44	382	2.2	45	412	2.4
1	1	2	86	55	52	54	2	87	42	401	2.2	49	425	2.7	45	412	2.4
1	1	2	87	54	47	45	2	88	63	489	4.5	54	460	3.6	59	481	4.2
1	1	2	88	62	53	56	2	90	48	428	2.6	54	460	3.6	51	440	3.0
1	1	2	90	54	57	56	2	91	34	346	1.3	42	366	2.0	37	366	1.8
1	1	2	92	62	56	58	2	92	54	454	3.4	49	425	2.7	51	440	3.0
1	1	2	93	52	50	50	2	93	41	391	2.0	51	442	3.2	46	414	2.5
1	1	2	94	33	49	48	2	94	41	395	2.1	45	398	2.4	43	398	2.2
1	1	2	95	27	47	45	2	95	44	411	2.4	50	434	2.9	47	421	2.6
1	1	2	96	54	56	56	2	96	42	398	2.1	53	453	3.4	47	421	2.6

				Vocabulary			Comprehension			Total		
S	T	Gr	ID	T-Score	ESS	GE	T-Score	ESS	GE	T-Score	ESS	GE
1	1	3	51	44	416	2.4	48	422	2.7	45	419	2.5
1	1	3	52	67	503	5.2	62	511	5.4	64	505	5.2
1	1	3	53	57	470	3.8	67	526	5.9	60	490	4.5
1	1	3	55	57	470	3.8	69	545	6.8	62	495	4.6
1	1	3	56	56	464	3.6	60	504	5.2	58	480	4.2
1	1	3	57	68	509	5.4	68	535	6.4	68	520	5.6
1	1	3	58	50	443	3.1	48	416	2.6	49	434	2.8
1	1	3	59	50	440	3.0	52	449	3.4	51	444	3.1
1	1	3	130	55	462	3.6	50	437	3.1	52	450	3.3
1	1	3	131	34	372	1.7	37	320	1.5	33	353	1.7
1	1	3	132	56	466	3.7	50	432	2.8	52	450	3.3
1	1	3	133	51	444	3.1	45	394	2.3	47	427	2.7
1	1	3	134	34	365	1.6	42	367	2	35	367	1.8
1	1	3	135	41	407	2.3	34	294	1.3	36	371	1.8
1	1	3	136	64	496	4.8	54	466	3.7	59	484	4.3
1	1	3	137	63	492	4.6	69	545	6.8	66	509	5.3
1	1	3	138	52	451	3.3	56	474	4.1	55	464	3.6
1	1	3	139	59	477	4.2	61	505	5.2	60	489	4.5
1	1	3	141	38	391	2.0	46	402	2.4	41	396	2.2
1	1	3	142	63	492	4.6	65	522	5.7	63	503	5.1
1	1	3	143	58	473	4.0	56	474	4.1	57	476	4.0
1	1	3	144	51	444	3.1	52	452	3.4	51	448	3.2
1	1	3	146	33	357	1.5	50	437	3.1	42	400	2.3
1	1	3	147	61	484	4.4	71	559	7.4	64	506	5.2
1	1	3	148	50	440	3.0	65	522	5.7	56	472	3.8
1	1	3	149	58	473	4.0	62	513	5.5	60	489	4.5
1	1	3	150	55	462	3.6	51	441	3.2	52	452	3.3
1	1	3	151	63	492	4.6	58	490	4.5	61	493	4.6
1	1	3	152	59	477	4.2	63	518	5.6	61	492	4.5
1	1	3	153	45	420	2.5	47	410	2.5	45	417	2.5
1	1	3	154	63	492	4.6	62	511	5.4	63	500	4.8
1	1	3	155	50	440	3.0	52	449	3.4	51	444	3.1
1	1	3	156	59	477	4.2	67	526	5.9	62	495	4.6
1	1	3	157	50	440	3.0	55	473	3.9	53	455	3.4
1	1	3	158	52	451	3.3	48	422	2.7	50	441	3.0
1	1	3	159	50	443	3.1	68	535	6.4	57	475	3.9
1	1	3	160	57	470	3.8	62	511	5.4	60	486	4.4
1	1	3	161	54	458	3.5	56	477	4.2	55	467	3.6
1	1	3	162	55	461	3.6	62	511	5.4	58	480	4.2
1	1	3	163	52	448	3.2	41	366	2	47	426	2.6
1	1	3	164	47	431	2.7	39	343	1.8	43	406	2.3
1	1	3	165	54	458	3.5	60	498	4.8	57	475	3.9
1	1	3	166	56	464	3.6	67	526	5.9	60	486	4.4
1	1	3	167	48	434	2.7	60	498	4.8	54	460	3.5
1	1	3	168	56	467	3.7	53	457	3.5	55	464	3.6
1	1	3	169	33	350	1.4	27	224	0	27	283	1.2
1	1	3	170	45	420	2.5	49	427	2.7	46	424	2.6
1	1	3	171	61	484	4.4	63	518	5.6	62	497	4.7
1	1	3	172	50	443	3.1	56	477	4.2	54	459	3.5
1	1	3	173	59	477	4.2	60	498	4.8	60	486	4.4
1	1	3	174	41	406	2.3	45	395	2.3	42	403	2.3
1	1	3	175	37	388	1.9	39	343	1.8	37	373	1.8
1	1	3	176	61	484	4.4	62	511	5.4	62	495	4.6
1	1	3	177	50	443	3.1	49	427	2.7	49	437	2.8
1	1	3	178	44	416	2.4	45	395	2.3	44	409	2.4
1	1	3	180	40	401	2.2	50	437	3.1	45	419	2.5
1	1	3	182	56	467	3.7	58	492	4.6	58	478	4.1
1	1	3	183	40	401	2.2	46	402	2.4	42	403	2.3
1	1	3	184	50	443	3.1	60	498	4.8	55	466	3.6
1	1	3	185	57	470	3.8	55	473	3.9	56	473	3.8
1	1	3	186	54	458	3.5	51	441	3.2	52	451	3.3
1	1	3	187	49	437	2.8	58	487	4.5	54	459	3.5
1	1	3	188	56	464	3.6	58	492	4.6	57	477	4.0
1	1	3	189	58	474	4.0	60	504	5.2	60	486	4.4
1	1	3	190	55	461	3.6	58	492	4.6	57	475	3.9
1	1	3	191	50	440	3.0	58	487	4.5	54	460	3.5
1	1	3	192	46	424	2.6	50	437	3.1	48	430	2.7
1	1	3	193	55	461	3.6	53	460	3.6	54	462	3.5
1	1	3	194	57	470	3.8	62	511	5.4	60	486	4.4
1	1	3	196	42	411	2.4	50	432	2.8	46	421	2.6
1	1	3	197	59	477	4.2	53	457	3.5	56	469	3.7
1	1	3	199	41	406	2.2	42	376	2	41	399	2.1
1	1	3	201	62	488	4.5	55	470	3.8	58	482	4.2
1	1	3	202	48	433	2.7	43	377	2.1	45	416	2.5
1	1	3	203	50	440	3.0	58	490	4.5	55	464	3.6
1	1	3	204	33	349	1.4	46	402	2.4	37	375	1.9
1	1	3	205	42	411	2.4	48	422	2.7	45	416	2.5
1	1	3	206	62	488	4.5	68	533	6.3	63	503	5.1
1	1	3	207	57	469	3.8	69	545	6.8	61	493	4.6
1	1	3	208	57	469	3.8	44	386	2.2	50	439	2.9
1	1	3	209	42	411	2.4	46	402	2.4	43	408	2.4
1	1	3	210	62	488	4.5	50	437	3.1	55	464	3.6
1	1	3	211	31	342	1.3	45	395	2.3	35	368	1.8
1	1	3	212	53	460	3.7	62	511	5.2	58	482	4.2
1	1	3	213	51	447	3.2	51	444	3.3	51	444	3.1
1	1	3	214	44	419	2.5	52	448	3.3	48	433	2.7

			Vocabulary			Comprehension			Total		
T	ID	T-Score	ESS	GE	T-Score	ESS	GE	T-Score	ESS	GE
2	51	42	437	2.8	47	452	3.4	44	444	3.1
2	52	58	501	5.1	62	545	6.8	59	516	5.5
2	53	58	501	5.1	56	513	5.5	57	506	5.2
2	55	53	484	4.4	56	513	5.5	55	496	4.7
2	56	62	518	5.7	58	522	5.7	60	519	5.6
2	57	61	511	5.4	67	574	8.2	63	533	6.3
2	56	51	473	4.0	51	479	4.2	51	478	4.1
2	59	50	469	3.8	45	441	3.2	46	456	3.4
2	130	54	488	4.5	56	511	5.4	55	497	4.7
2	131	46	454	3.4	45	441	3.2	45	450	3.3
2	132	45	451	3.3	49	464	3.6	47	459	3.5
2	133	48	464	3.6	49	468	3.7	49	467	3.6
2	134	47	458	3.5	49	464	3.6	48	462	3.5
2	135	49	467	3.7	49	464	3.6	49	467	3.6
2	136	62	517	5.6	60	535	6.4	61	524	5.8
2	137	62	517	5.6	71	607	10.0	68	554	7.2
2	138	58	503	5.2	54	498	4.8	56	500	4.8
2	139	54	488	4.5	62	545	6.8	57	509	5.3
2	141	48	461	3.6	53	492	4.6	50	475	3.9
2	142	64	526	6.1	58	526	5.9	61	524	5.8
2	143	51	474	4.0	60	535	6.4	54	495	4.6
2	144	47	458	3.5	52	482	4.3	49	469	3.7
2	146	52	477	4.2	45	441	3.2	48	462	3.5
2	147	58	503	5.2	64	557	7.4	61	524	5.8
2	148	50	470	3.8	62	545	6.8	54	495	4.6
2	149	57	497	4.8	60	535	6.4	58	512	5.4
2	150	54	488	4.5	54	498	4.8	54	492	4.5
2	151	64	526	6.1	62	545	6.8	63	535	6.3
2	152	62	518	5.7	53	490	4.5	57	506	5.2
2	153	47	458	3.5	48	459	3.5	47	460	3.5
2	154	61	511	5.4	62	545	6.8	61	524	5.8
2	155	51	473	4.0	55	505	5.2	53	487	4.4
2	156	62	518	5.7	62	545	6.8	62	528	6.1
2	157	56	496	4.8	60	533	6.3	57	509	5.3
2	158	53	484	4.4	56	513	5.5	55	496	4.7
2	159	54	488	4.5	64	559	7.4	57	509	5.3
2	160	58	501	5.1	60	533	6.3	58	512	5.4
2	161	54	488	4.5	49	462	3.6	51	478	4.1
2	162	58	501	5.1	62	545	6.8	59	516	5.5
2	163	58	501	5.1	54	497	4.7	56	501	4.9
2	164	62	518	5.7	58	522	5.7	60	519	5.6
2	165	53	484	4.4	53	490	4.5	53	489	4.5
2	166	58	501	5.1	62	545	6.8	59	516	5.5
2	167	61	511	5.4	55	505	5.2	57	509	5.3
2	168	59	506	5.3	56	513	5.5	57	509	5.3
2	169	27	349	1.4	44	427	2.7	34	390	2.1
2	170	49	466	3.7	52	485	4.4	50	476	4.0
2	171	61	511	5.4	58	522	5.7	59	516	5.5
2	172	48	462	3.6	60	533	6.3	73	487	4.4
2	173	53	484	4.4	58	522	5.7	55	498	4.7
2	174	47	458	3.5	50	474	4.1	49	468	3.7
2	175	49	466	3.7	50	470	3.8	49	470	3.7
2	176	71	548	7.0	73	612	10.2	73	582	8.4
2	177	48	462	3.6	49	466	3.7	48	466	3.6
2	178	49	466	3.7	52	485	4.4	50	476	4.0
2	180	37	407	2.3	37	377	2.1	34	396	2.2
2	182	54	488	4.5	47	452	3.4	50	472	3.8
2	183	38	415	2.4	33	332	1.7	34	39	2.1
2	184	52	480	4.3	50	474	4.1	51	480	4.2
2	185	52	477	4.2	55	505	5.2	53	489	4.5
2	186	59	506	5.3	49	462	3.6	53	487	4.4
2	187	52	477	4.2	58	522	5.7	54	493	4.6
2	188	54	488	4.5	51	479	4.2	53	487	4.4
2	189	35	402	2.2	55	505	5.2	45	448	3.2
2	190	51	473	4.0	50	474	4.1	50	476	4.0
2	191	49	466	3.7	51	479	4.2	50	474	3.8
2	192	50	469	3.8	53	490	4.5	51	480	4.2
2	193	52	477	4.2	53	490	4.5	52	484	4.3
2	194	59	506	5.3	58	522	5.7	58	512	5.4
2	196	44	444	3.1	45	441	3.2	43	442	3.1
2	197	61	511	5.4	62	545	6.8	61	524	5.8
2	199	47	458	3.5	48	457	3.5	47	459	3.5
2	201	56	492	4.6	52	487	4.5	53	490	4.5
2	202	46	454	3.4	38	386	2.2	41	434	2.8
2	203	53	481	4.3	54	498	4.8	53	488	4.4
2	204	38	416	2.4	41	410	2.5	37	414	2.5
2	205	44	443	3.1	51	477	4.2	47	459	3.5
2	206	62	517	5.6	56	511	5.4	58	512	5.4
2	207	60	509	5.4	62	545	6.8	61	524	5.8
2	208	60	509	5.4	45	437	3.1	50	473	3.8
2	209	45	451	3.3	48	460	3.6	46	457	3.4
2	210	52	477	4.2	51	477	4.2	51	478	4.1
2	211	40	424	2.6	43	422	2.7	39	424	2.6
2	212	52	477	4.2	55	504	5.2	53	488	4.4
2	213	47	458	3.5	50	473	3.9	48	466	3.6
2	214	50	470	3.8	52	487	4.5	51	478	4.1

1	1	3	217	55	462	3.6	52	448	3.3	53	456	3.4	2	217	58	503	5.2	56	511	5.4	57	505	5.2
1	1	3	218	39	397	2.1	47	410	2.5	42	403	2.3	2	218	40	424	2.6	37	366	2.0	36	406	2.3
1	1	3	219	62	488	4.5	57	485	4.4	60	489	4.5	2	219	56	492	4.6	64	557	7.4	59	516	5.5
1	1	3	220	49	437	2.8	53	455	3.5	51	446	3.2	2	220	48	464	3.6	50	473	3.9	49	469	3.7
1	1	3	221	64	496	4.8	62	513	5.5	63	503	5.1	2	221	71	551	7.1	67	571	8.1	69	562	7.5

READING DATA: SUN VALLEY SCHOOL, GRADE 4, TIMES 1 & 2

				Vocabulary			Comprehension			Total		
S	T	Gr	ID	T-Score	ESS	GE	T-Score	ESS	GE	T-Score	ESS	GE
1	1	4	223	59	508	5.3	56	511	5.4	58	513	5.4
1	1	4	224	54	490	4.6	49	468	3.7	51	481	4.2
1	1	4	225	42	445	3.2	53	492	4.6	48	466	3.6
1	1	4	226	71	545	6.8	69	596	9.3	71	564	7.5
1	1	4	227	59	508	5.3	60	533	6.3	60	524	5.8
1	1	4	228	42	441	3.0	49	464	3.6	45	454	3.4
1	1	4	229	50	476	4.1	45	443	3.2	47	465	3.6
1	1	4	230	54	490	4.6	48	459	3.5	50	477	4.0
1	1	4	231	59	508	5.3	68	583	8.6	63	537	6.4
1	1	4	232	63	526	6.1	73	628	11.0	69	559	7.4
1	1	4	233	50	476	4.1	45	437	3.1	47	463	3.6
1	1	4	234	60	513	5.5	58	522	5.7	60	522	5.7
1	1	4	235	42	445	3.2	45	437	3.1	43	446	3.2
1	1	4	236	55	493	4.7	54	497	4.7	54	497	4.7
1	1	4	237	58	504	5.2	51	482	4.3	54	497	4.7
1	1	4	238	44	452	3.3	48	459	3.5	46	458	3.5
1	1	4	239	58	504	5.2	61	540	6.6	60	524	5.8
1	1	4	240	38	422	11.3	48	459	3.5	42	443	3.1
1	1	4	241	48	469	3.8	49	464	3.6	48	468	3.7
1	1	4	242	63	526	6.1	68	583	8.6	66	547	6.7
1	1	4	243	57	500	5.0	60	533	6.3	59	519	5.6
1	1	4	244	66	531	6.3	73	628	11.0	71	564	7.5
1	1	4	245	48	467	3.7	43	422	2.7	45	454	3.4
1	1	4	246	73	575	8.1	71	601	9.6	73	587	8.6
1	1	4	247	61	516	5.6	73	615	10.4	66	547	6.7
1	1	4	248	45	458	3.5	38	386	11.3	41	436	2.8
1	1	4	249	58	506	5.3	58	527	6.0	59	519	5.6
1	1	4	250	73	575	8.1	71	601	9.6	73	587	8.6
1	1	4	251	45	455	3.4	52	489	4.5	49	471	3.7
1	1	4	252	61	516	5.6	60	534	6.3	61	527	6.0
1	1	4	253	58	506	5.3	54	497	4.7	56	506	5.2
1	1	4	255	52	484	4.4	58	527	6.0	56	506	5.2
1	1	4	256	51	477	4.2	57	521	5.7	55	499	4.8
1	1	4	257	39	426	2.6	37	376	2.1	34	398	2.2
1	1	4	258	61	516	2.6	63	557	7.4	62	533	6.3
1	1	4	259	62	520	5.7	67	576	8.3	65	541	6.5
1	1	4	260	43	449	3.3	36	365	2.0	37	418	2.5
1	1	4	262	51	480	4.3	55	506	5.2	54	495	4.5
1	1	4	263	71	549	7.0	67	576	8.3	69	560	7.4
1	1	4	264	58	506	5.3	73	615	10.4	63	538	6.4
1	1	4	265	44	452	3.3	45	443	3.2	44	450	3.3
1	1	4	266	51	480	4.3	63	557	7.4	57	512	5.4
1	1	4	267	73	593	8.8	73	615	10.4	73	607	9.6
1	1	4	268	47	464	3.6	57	516	5.5	52	488	4.4
1	1	4	269	67	534	6.4	58	527	6.0	62	533	6.3
1	1	4	270	60	513	5.5	56	511	5.4	58	516	5.5
1	1	4	271	53	488	4.5	62	548	7.0	58	514	5.5
1	1	4	272	59	509	5.4	65	566	7.7	62	531	6.2
1	1	4	273	71	549	7.0	67	576	8.3	69	560	7.4
1	1	4	274	44	452	3.3	45	436	3.1	43	447	3.2
1	1	4	275	73	560	7.4	73	632	11.3	73	596	9.1
1	1	4	276	61	516	5.6	57	521	5.7	60	523	5.7
1	1	4	277	52	484	4.4	56	511	5.4	55	499	4.8
1	1	4	278	34	403	2.2	51	481	4.3	43	447	3.2
1	1	4	294	71	554	7.2	67	572	8.1	69	559	7.4
1	1	4	296	52	483	4.4	54	502	5.1	53	492	4.5
1	1	4	297	56	496	4.8	60	533	6.3	58	516	5.5
1	1	4	298	55	493	4.7	63	554	7.3	60	522	5.7
1	1	4	299	52	483	4.4	52	487	4.5	52	485	4.3
1	1	4	300	60	513	5.5	63	554	7.3	62	532	6.2
1	1	4	301	48	466	3.7	54	502	5.1	51	481	4.2
1	1	4	302	49	473	4.0	58	522	5.7	54	495	4.6
1	1	4	303	40	433	2.7	42	416	2.6	39	427	2.7
1	1	4	304	49	473	4.0	55	506	5.2	52	488	4.4
1	1	4	305	60	513	5.5	57	517	5.6	59	519	5.6
1	1	4	306	40	433	2.7	55	506	5.2	48	466	3.6
1	1	4	307	56	496	4.8	62	547	6.9	60	522	5.7
1	1	4	308	63	526	6.1	58	522	5.7	61	528	6.1
1	1	4	309	57	500	5.0	58	522	5.7	58	513	5.4
1	1	4	310	68	537	6.5	59	528	6.1	63	535	6.3
1	1	4	311	53	486	4.5	52	487	4.5	52	488	4.4
1	1	4	312	48	466	3.7	51	477	4.2	49	472	3.8
1	1	4	313	55	493	4.7	54	497	4.7	54	497	4.7
1	1	4	314	71	554	7.2	68	563	8.6	71	564	7.5
1	1	4	315	48	469	3.8	56	511	5.4	52	488	4.4
1	1	4	316	56	496	4.8	55	506	5.2	56	504	5.1

			Vocabulary			Comprehension			Total		
T	ID	T-Score	ESS	GE	T-Score	ESS	GE	T-Score	ESS	GE
2	223	58	528	6.2	62	576	8.3	60	547	6.7
2	224	50	495	4.7	56	534	6.3	53	514	5.5
2	225	51	499	5.0	55	527	6.0	53	514	5.5
2	226	73	593	8.8	35	386	2.2	48	491	4.5
2	227	54	513	5.5	61	566	7.7	57	533	6.3
2	228	44	470	3.8	59	557	7.4	51	506	5.2
2	229	46	480	4.3	51	502	5.1	49	493	4.6
2	230	52	503	5.2	56	534	6.3	54	519	5.6
2	231	56	520	5.7	73	651	12.5	62	560	7.4
2	232	63	549	7.0	68	615	10.4	67	579	8.3
2	233	49	492	4.6	50	497	4.7	50	497	4.7
2	234	52	503	5.2	67	601	9.6	57	533	6.3
2	235	31	403	2.2	48	485	4.4	39	450	3.3
2	236	56	520	5.7	56	534	6.3	56	529	6.1
2	237	54	513	5.5	52	511	5.4	53	516	5.5
2	238	38	445	3.2	46	477	4.2	41	460	3.5
2	239	58	528	6.2	57	541	6.6	57	536	6.4
2	240	44	474	4.0	46	477	4.2	45	476	4.0
2	241	51	499	5.0	51	502	5.1	51	504	5.1
2	242	59	534	6.4	62	576	8.3	61	551	7.0
2	243	37	441	3.0	57	541	6.6	46	482	4.2
2	244	73	593	8.8	59	557	7.4	63	565	7.6
2	245	50	496	4.8	45	468	3.7	47	485	4.3
2	246	64	554	7.2	71	628	11.0	68	587	8.6
2	247	58	531	6.3	60	563	7.6	59	544	6.6
2	248	47	483	4.4	42	443	3.2	43	468	3.7
2	249	62	545	6.8	56	533	6.3	58	539	6.5
2	250	71	580	8.3	71	628	11.0	71	609	9.6
2	251	50	496	4.8	58	547	6.9	55	522	5.7
2	253	60	537	6.5	73	649	12.4	67	578	8.3
2	254	53	508	5.3	49	492	4.6	51	504	5.1
2	255	51	500	5.0	56	540	6.6	55	522	5.7
2	256	50	496	4.8	53	517	5.6	52	508	5.3
2	257	34	422	2.5	41	437	3.1	35	431	2.7
2	258	64	554	7.2	73	649	12.4	69	597	9.2
2	259	58	531	6.3	71	628	11.0	63	564	7.5
2	260	44	473	4.0	48	487	4.5	45	479	4.1
2	262	57	526	6.1	53	517	5.6	56	526	5.9
2	263	62	545	6.8	73	649	12.4	68	587	8.6
2	264	58	531	6.3	73	649	12.4	65	571	7.8
2	265	36	433	2.7	41	437	3.1	36	437	2.8
2	266	62	545	6.8	61	572	8.1	61	554	8.2
2	267	73	600	9.2	73	649	12.4	73	640	11.4
2	268	60	537	6.5	56	540	6.6	58	539	6.5
2	269	62	545	6.8	61	572	8.1	61	554	7.2
2	270	62	545	6.8	59	554	7.3	60	547	6.7
2	271	58	531	6.3	59	554	7.3	59	542	6.6
2	272	58	531	6.3	60	563	7.6	59	544	6.6
2	273	67	565	7.6	60	563	7.6	62	559	7.4
2	274	45	476	4.1	50	497	4.7	47	485	4.3
2	275	71	580	8.3	60	563	7.6	63	564	7.5
2	276	55	518	5.7	56	540	6.6	56	530	6.2
2	277	54	513	5.5	58	547	6.9	56	530	6.2
2	278	48	486	4.5	48	487	4.5	48	488	4.4
2	294	73	617	1.0	62	576	8.3	68	587	8.6
2	296	49	492	4.6	58	548	7.0	53	516	5.5
2	297	55	516	5.6	55	527	6.0	55	525	5.8
2	298	56	524	6.0	57	541	6.6	57	533	6.3
2	299	48	488	4.5	59	557	7.4	53	516	5.5
2	300	56	520	5.7	73	651	12.5	62	560	7.4
2	301	44	474	4.0	36	396	2.4	39	452	3.3
2	302	53	509	5.4	57	541	6.6	55	525	5.8
2	303	37	441	6.0	41	436	3.1	37	439	2.9
2	304	51	499	5.0	50	497	4.7	50	501	4.9
2	305	56	524	6.0	58	548	7.0	57	536	6.4
2	306	42	461	3.6	56	534	6.3	49	493	4.6
2	307	53	509	5.4	52	511	5.4	53	514	5.5
2	308	58	528	6.2	55	527	6.0	56	531	6.2
2	309	54	513	5.5	51	506	5.2	53	514	5.5
2	310	59	534	6.4	58	548	7.0	58	541	6.5
2	311	50	495	4.7	51	506	5.2	51	504	5.1
2	312	43	467	3.7	54	521	5.7	49	493	4.6
2	313	46	480	4.3	48	485	4.4	47	484	4.3
2	314	66	560	7.4	61	566	7.7	62	560	7.4
2	315	49	492	4.6	49	489	4.5	49	493	4.6
2	316	56	524	6.0	58	548	7.0	57	536	6.4

READING DATA: SUN VALLEY SCHOOL, GRADE 5, TIMES 1 & 2

				Vocabulary			Comprehension			Total		
S	T	Gr	ID	T-Score	ESS	GE	T-Score	ESS	GE	T-Score	ESS	GE
1	1	5	279	57	530	6.2	52	512	5.4	55	524	5.8
1	1	5	280	60	541	6.6	52	512	5.4	56	528	6.1
1	1	5	281	42	466	3.7	45	472	3.8	43	469	3.7
1	1	5	282	45	482	4.3	45	472	3.8	44	477	4.0
1	1	5	283	44	478	4.2	37	409	2.5	37	447	3.2
1	1	5	284	52	510	5.4	56	538	6.5	55	524	5.8
1	1	5	285	48	491	4.6	45	472	3.8	46	484	4.3
1	1	5	286	48	493	4.7	49	493	4.6	48	494	4.6
1	1	5	287	44	478	4.2	52	512	5.4	48	492	4.5
1	1	5	288	49	496	4.8	49	493	4.6	49	496	4.7
1	1	5	289	57	530	6.2	57	544	6.7	57	536	6.4
1	1	5	290	41	459	3.5	45	472	3.8	42	466	3.6
1	1	5	291	34	423	2.6	34	372	2.1	30	391	2.1
1	1	5	292	48	493	4.7	48	488	4.5	48	492	4.5
1	1	5	293	60	541	6.6	58	550	7.1	59	544	6.6
1	1	5	317	71	589	8.6	68	618	10.5	69	601	9.3
1	1	5	318	55	521	5.8	54	527	6.0	55	526	5.9
1	1	5	319	37	442	3.1	45	487	3.7	39	455	3.4
1	1	5	320	57	530	6.2	61	569	7.9	59	547	6.7
1	1	5	321	45	482	4.3	39	429	2.8	40	459	3.5
1	1	5	322	64	558	7.4	60	562	7.6	62	558	7.3
1	1	5	323	44	478	4.2	45	472	3.8	44	474	3.8
1	1	5	324	43	473	4.0	51	507	5.3	47	488	4.4
1	1	5	326	54	517	5.6	55	533	6.3	55	526	5.9
1	1	5	327	61	547	6.9	59	556	7.3	60	549	6.8
1	1	5	328	48	491	4.6	54	522	5.7	50	503	5.1
1	1	5	330	46	486	4.5	50	497	4.7	47	490	4.5
1	1	5	331	49	496	4.8	45	467	3.7	46	486	4.4
1	1	5	332	52	510	5.4	54	522	5.7	53	518	5.6
1	1	5	333	56	525	6.0	51	507	5.3	54	520	5.6
1	1	5	334	47	489	4.5	45	487	3.7	45	479	4.1
1	1	5	335	64	558	7.4	67	608	10.0	66	576	8.2
1	1	5	336	47	489	4.5	44	460	3.6	44	477	4.0
1	1	5	337	51	503	5.2	52	512	5.4	51	508	5.3
1	1	5	338	52	507	5.3	48	488	4.5	49	499	4.8
1	1	5	339	48	493	4.7	53	517	5.6	50	503	5.1
1	1	5	340	60	541	6.6	64	590	9.0	62	561	7.4
1	1	5	341	41	459	3.5	51	507	5.3	46	484	4.3
1	1	5	342	60	541	6.6	60	562	7.6	60	549	6.8
1	1	5	343	56	525	6.0	57	544	6.7	56	534	6.3
1	1	5	344	69	582	8.4	56	536	6.4	62	559	7.4
1	1	5	345	52	510	5.4	48	488	4.5	50	502	5.0
1	1	5	346	51	503	5.2	54	525	5.8	52	513	5.4
1	1	5	347	53	513	5.5	56	536	6.4	55	524	5.8
1	1	5	349	50	500	5.0	41	438	3.1	45	479	4.1
1	1	5	350	48	494	4.7	45	471	3.8	46	486	4.4
1	1	5	351	53	513	5.5	54	525	5.8	54	519	5.6
1	1	5	352	50	500	5.0	50	499	4.8	50	500	4.8
1	1	5	353	40	457	3.5	37	413	2.6	34	434	2.8
1	1	5	354	48	491	4.6	43	453	3.4	44	476	4.0
1	1	5	355	44	476	4.1	48	488	4.5	45	481	4.2
1	1	5	356	48	494	4.7	52	514	5.5	50	502	5.0
1	1	5	357	68	569	7.7	56	536	6.4	61	553	7.1
1	1	5	358	53	513	5.5	51	509	5.3	52	513	5.4
1	1	5	359	45	480	4.3	45	471	3.8	44	476	4.0
1	1	5	360	43	470	3.8	41	438	3.1	39	455	3.4
1	1	5	361	64	558	7.4	61	570	8.0	62	562	7.5
1	1	5	362	49	497	4.8	52	514	5.5	50	504	5.1
1	1	5	363	69	582	8.4	73	640	11.7	69	604	9.4
1	1	5	364	53	513	5.5	52	514	5.5	53	515	5.5
1	1	5	365	47	488	4.5	38	422	2.7	41	462	3.5
1	1	5	367	48	494	4.7	54	525	5.8	51	506	5.2
1	1	5	368	37	442	3.1	35	397	2.4	33	416	2.5
1	1	5	369	51	503	5.2	47	483	4.4	49	496	4.7
1	1	5	370	64	558	7.4	54	522	5.7	58	539	6.5
1	1	5	371	57	530	6.2	64	590	9.0	61	555	7.2
1	1	5	372	44	478	4.2	34	385	2.2	35	438	2.9
1	1	5	373	34	433	2.7	41	438	3.1	34	433	2.7
1	1	5	374	63	553	7.2	61	569	7.9	62	558	7.3
1	1	5	375	27	373	1.7	27	316	1.5	27	330	1.5
1	1	5	376	68	569	7.7	57	544	6.7	61	555	7.2
1	1	5	377	50	499	5.0	58	550	7.1	54	522	5.7
1	1	5	378	51	503	5.2	55	533	6.3	53	518	5.6
1	1	5	379	63	553	7.2	57	544	6.7	59	547	6.7
1	1	5	380	48	493	4.7	51	507	5.3	49	499	4.8
1	1	5	381	46	486	4.5	50	502	5.1	48	492	4.5
1	1	5	382	53	514	5.5	51	507	5.3	53	514	5.5
1	1	5	383	52	507	5.3	52	512	5.4	52	511	5.4
1	1	5	384	64	558	7.4	63	583	8.6	63	566	7.6
1	1	5	386	68	575	8.1	66	599	9.5	68	583	8.4
1	1	5	387	53	514	5.5	60	562	7.6	56	534	6.3
1	1	5	388	54	517	5.6	61	569	7.9	58	539	6.5
1	1	5	389	50	499	5.0	47	483	4.4	48	494	4.6
1	1	5	390	44	478	4.2	42	446	3.3	41	462	3.5
1	1	5	391	34	423	2.6	34	385	2.2	30	398	2.2
1	1	5	392	73	641	11.5	71	630	11.2	73	636	11.2
2	1		279	51	526	6.1	51	530	6.2	51	529	6.1
2	1		280	51	526	6.1	50	525	5.8	50	526	5.9
2	1		281	42	484	4.4	46	499	4.8	42	490	4.5
2	1		282	50	522	5.8	55	555	7.3	52	536	6.4
2	1		283	42	484	4.4	45	488	4.5	42	486	4.4
2	1		284	54	541	6.6	64	615	10.4	59	568	7.7
2	1		285	48	513	5.5	49	519	5.6	48	517	5.5
2	1		286	42	488	4.5	53	542	6.6	47	509	5.3
2	1		287	41	480	4.3	48	514	5.5	44	494	4.6
2	1		288	46	506	5.3	43	477	4.2	44	496	4.7
2	1		289	50	522	5.8	51	530	6.2	50	526	5.9
2	1		290	46	506	5.3	47	504	5.2	46	506	5.2
2	1		291	34	441	3.0	34	403	2.4	30	418	2.5
2	1		292	52	531	6.3	48	509	5.3	50	522	5.7
2	1		293	54	541	6.6	48	514	5.5	51	529	6.1
2	1		317	71	609	9.6	64	615	10.4	68	610	9.7
2	1		318	46	503	5.2	45	488	4.5	45	498	4.7
2	1		319	42	488	4.5	45	488	4.5	42	488	4.4
2	1		320	58	558	7.4	56	562	7.6	57	559	7.4
2	1		321	45	500	5.0	47	504	5.2	45	502	5.0
2	1		322	59	563	7.5	57	570	8.0	58	565	7.6
2	1		323	50	522	5.8	45	493	4.6	47	511	5.4
2	1		324	48	513	5.5	49	519	5.6	48	517	5.5
2	1		326	48	513	5.5	48	509	5.3	48	513	5.4
2	1		327	54	541	6.6	57	570	8.0	56	553	7.1
2	1		328	46	503	5.2	52	536	6.4	48	517	5.5
2	1		330	48	506	5.3	45	493	4.6	45	502	5.0
2	1		331	48	513	5.5	49	519	5.6	48	517	5.5
2	1		332	50	522	5.8	52	536	6.4	51	529	6.1
2	1		333	52	531	6.3	56	562	7.6	54	544	6.6
2	1		334	46	506	5.3	45	488	4.5	45	500	4.8
2	1		335	56	547	6.9	63	605	9.8	59	568	7.7
2	1		336	56	547	6.9	54	549	7.0	54	547	6.7
2	1		337	48	513	5.5	48	509	5.3	48	513	5.4
2	1		338	49	517	5.6	50	525	5.8	50	522	5.7
2	1		339	44	494	4.7	51	530	6.2	47	509	5.3
2	1		340	45	500	5.0	52	536	6.4	48	515	5.5
2	1		341	62	576	8.1	64	615	10.4	63	590	8.7
2	1		342	58	558	7.4	58	578	8.4	58	565	7.6
2	1		343	53	536	6.5	61	595	9.3	57	559	7.4
2	1		344	58	558	7.4	50	527	6.0	53	541	6.5
2	1		345	51	525	6.0	49	517	5.6	50	524	5.8
2	1		346	49	517	5.6	51	533	6.3	50	526	5.9
2	1		347	52	530	6.2	54	550	7.1	53	539	6.5
2	1		349	50	521	5.8	47	507	5.3	49	518	5.6
2	1		350	43	491	4.6	47	507	5.3	44	497	4.7
2	1		351	50	521	5.8	50	522	5.7	50	524	5.8
2	1		352	37	466	3.7	40	460	3.6	37	462	3.5
2	1		353	42	486	4.5	39	454	3.4	38	471	3.7
2	1		354	52	530	6.2	50	527	6.0	51	530	6.2
2	1		355	48	514	5.5	50	572	6.0	50	522	5.7
2	1		356	48	514	5.5	43	478	4.2	45	499	4.8
2	1		357	62	575	8.1	59	583	8.6	60	576	8.2
2	1		358	50	521	5.8	47	507	5.3	49	518	5.6
2	1		359	41	482	4.3	43	478	4.2	41	479	4.1
2	1		360	41	482	4.3	41	467	3.7	39	474	3.8
2	1		361	63	581	8.3	55	556	7.3	58	566	7.6
2	1		362	48	514	5.5	50	522	5.7	49	520	5.6
2	1		363	62	575	8.1	73	660	12.9	67	607	9.6
2	1		364	54	541	6.6	52	538	6.5	53	539	6.5
2	1		365	44	499	5.0	44	483	4.4	44	494	4.6
2	1		367	45	503	5.2	51	533	6.3	49	518	5.6
2	1		368	34	441	3.0	33	393	2.3	30	413	2.5
2	1		369	48	506	5.3	55	555	7.3	50	526	5.9
2	1		370	73	621	10.2	64	615	10.4	68	616	10.1
2	1		371	57	552	7.2	60	586	8.7	58	565	7.6
2	1		372	54	541	6.6	50	525	5.8	52	534	6.3
2	1		373	37	484	3.6	39	453	3.4	36	458	3.5
2	1		374	63	582	8.4	63	605	9.8	63	590	8.7
2	1		375	36	457	3.5	46	499	4.8	41	479	4.1
2	1		376	60	596	7.7	60	586	8.7	60	575	8.1
2	1		377	52	531	6.3	57	570	8.0	54	547	6.7
2	1		378	50	522	5.8	63	605	9.8	56	553	7.1
2	1		379	54	541	6.6	67	627	11.0	59	571	7.8
2	1		380	45	500	5.0	52	536	6.4	48	515	5.5
2	1		381	48	513	5.5	53	542	6.6	50	526	5.9
2	1		382	51	526	6.1	51	530	6.2	51	529	6.1
2	1		383	58	558	7.4	54	549	7.0	56	553	7.1
2	1		384	57	552	7.2	71	654	12.7	62	586	8.6
2	1		386	68	599	9.1	64	615	10.4	66	604	9.4
2	1		387	50	522	5.8	49	519	5.6	50	522	5.7
2	1		388	63	582	8.4	67	627	11.0	65	599	9.3
2	1		389	50	522	5.8	44	483	4.4	46	506	5.2
2	1		390	52	531	6.3	45	493	4.6	48	515	5.5
2	1		391	44	494	4.7	38	446	3.3	40	476	4.0
2	1		392	73	656	12.7	73	687	12.9	73	676	12.9

1	1	5	393	49	497	4.8	55	530	6.2	52	511	5.4	2	393	47	510	5.4	57	569	7.9	52	534	6.3
1	1	5	394	56	526	6.1	60	562	7.6	58	542	6.6	2	394	52	530	6.2	59	583	8.6	56	552	7.1
1	1	5	395	53	513	5.5	51	504	5.2	52	511	5.4	2	395	57	553	7.2	47	507	5.3	51	530	6.2
1	1	5	397	53	513	5.5	53	519	5.6	53	517	5.5	2	397	48	514	5.5	49	517	5.6	49	518	5.6
1	1	5	398	66	563	7.5	51	504	5.2	56	534	6.3	2	398	52	530	6.2	50	527	6.0	51	530	6.2
1	1	5	399	57	531	6.3	56	542	6.6	57	536	6.4	2	399	60	569	7.7	62	599	9.5	61	580	8.3
1	1	5	400	68	569	7.7	73	640	11.7	69	595	9.1	2	400	71	611	9.6	65	618	10.5	68	613	9.8
1	1	5	401	46	484	4.4	45	471	3.8	45	479	4.1	2	401	44	499	5.0	38	446	3.3	41	482	4.2
1	1	5	402	48	491	4.6	51	509	5.3	49	498	4.7	2	402	46	503	5.2	55	556	7.3	50	526	5.9
1	1	5	403	61	547	6.9	63	586	8.7	62	562	7.5	2	403	53	536	6.5	55	556	7.6	54	544	6.6
1	1	5	404	44	476	4.1	41	438	3.1	40	458	3.5	2	404	34	442	3.1	45	493	4.6	38	471	3.7
1	1	5	405	55	522	5.8	59	555	7.3	57	536	6.4	2	405	54	541	6.6	53	544	6.7	53	541	6.5
1	1	5	406	66	563	7.5	69	627	11.0	68	586	8.6	2	406	68	599	9.1	62	599	9.5	64	596	9.1
1	1	5	407	48	491	4.6	59	555	7.3	53	515	5.5	2	407	54	541	6.6	63	608	10.0	58	566	7.6
1	1	5	409	47	488	4.5	55	530	6.2	50	504	5.1	2	409	41	482	4.3	42	472	3.8	40	477	4.0
1	1	5	410	55	522	5.8	59	555	7.3	57	536	6.4	2	410	57	553	7.2	59	583	8.6	58	563	7.5
1	1	5	411	42	464	3.6	53	519	5.6	47	490	4.5	2	411	44	499	5.0	55	556	7.3	50	524	5.8
1	1	5	412	59	536	6.5	55	530	6.2	56	534	6.3	2	412	50	521	5.8	57	569	7.9	53	541	6.5
1	1	5	415	59	536	6.5	59	555	7.3	59	544	6.6	2	415	59	564	7.6	56	562	7.6	57	561	7.4
1	1	5	416	36	441	3.0	44	459	3.5	38	451	3.3	2	416	42	486	4.5	45	488	4.5	42	486	4.4

TABLE OF WRITING SCORES

WRITING DATA: SUN VALLEY SCHOOL, GRADE 2, TIMES 1, 2, & 3

S	T	Gr	Rm	ID	H	1	2	3	4	5	6	7	8
1	1	2	10	1	5	2	2	3	2	4	4	2	2
1	1	2	10	2	3	2	2	2	2	2	2	0	1
1	1	2	10	3	5	3	3	3	3	4	4	3	4
1	1	2	10	4	4	2	2	2	2	4	4	3	4
1	1	2	10	5	4	3	2	2	2	3	2	4	4
1	1	2	10	7	9	3	4	4	3	4	4	4	3
1	1	2	10	8	5	2	3	2	2	2	3	3	1
1	1	2	10	9	3	2	2	2	2	2	3	3	3
1	1	2	10	10	2	1	1	2	2	0	2	0	0
1	1	2	10	12	2	1	2	2	1	3	3	0	4
1	1	2	10	13	7	2	3	2	2	2	4	3	3
1	1	2	10	14	6	2	2	2	2	3	4	3	2
1	1	2	10	15	7	2	3	2	2	4	4	4	4
1	1	2	10	16	4	2	2	2	2	4	4	4	4
1	1	2	10	18	5	3	3	2	3	4	4	3	3
1	1	2	10	19	2	2	2	2	2	2	2	2	2
1	1	2	10	20	3	2	1	2	2	3	4	5	4
1	1	2	10	21	4	2	2	2	2	4	3	4	4
1	1	2	10	22	1	0	0	0	0	2	0	3	0
1	1	2	10	23	2	2	2	2	2	2	2	0	0
1	1	2	10	24	7	3	3	4	3	4	3	3	3
1	1	2	10	25	7	4	4	2	4	4	4	4	3
1	1	2	11	26	2	2	2	2	2	2	4	3	3
1	1	2	11	27	0	0	1	2	1	1	3	1	1
1	1	2	11	28	2	0	2	2	2	3	4	3	0
1	1	2	11	29	3	3	2	2	2	4	4	4	2
1	1	2	11	30	2	0	0	2	2	1	1	1	1
1	1	2	11	31	4	4	2	2	2	2	4	3	2
1	1	2	11	32	5	5	3	3	4	4	4	4	4
1	1	2	11	33	4	1	2	4	2	3	4	2	3
1	1	2	11	34	6	4	4	4	3	5	5	5	6
1	1	2	11	35	2	0	2	0	0	0	1	0	0
1	1	2	11	36	5	3	2	2	3	4	3	4	2
1	1	2	11	37	2	1	2	1	2	2	3	3	0
1	1	2	11	39	5	2	2	2	2	2	3	4	2
1	1	2	11	40	5	4	3	4	3	4	4	4	2
1	1	2	11	41	6	4	4	2	4	2	4	4	4
1	1	2	11	42	5	4	4	3	3	4	2	4	4
1	1	2	11	44	9	6	5	5	5	6	6	6	6
1	1	2	11	45	3	2	2	2	2	2	4	4	4
1	1	2	11	46	4	5	2	3	4	3	4	2	2
1	1	2	11	47	7	5	5	4	5	3	4	5	4
1	1	2	11	48	2	0	3	3	3	3	4	3	3
1	1	2	11	49	4	3	2	2	2	4	4	4	4
1	1	2	11	50	4	4	2	2	2	2	3	3	2
1	1	2	6	60	3	2	2	2	0	3	3	4	4
1	1	2	6	61	2	1	0	2	1	2	2	1	0
1	1	2	6	62	2	1	1	2	1	2	2	4	4
1	1	2	6	63	4	2	2	2	2	3	3	3	3
1	1	2	6	64	4	3	3	2	2	5	5	5	4
1	1	2	6	65	4	2	2	2	2	4	4	5	5
1	1	2	6	67	3	3	2	3	2	2	5	5	4
1	1	2	6	68	5	2	3	3	2	2	2	3	3

T	Rm	ID	H	1	2	3	4	5	6	7	8
2	10	1	6	3	3	4	3	4	4	2	4
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2	10	3	5	4	4	3	3	6	6	6	2
2	10	4	8	6	4	4	3	5	6	5	6
2	10	5	7	3	3	4	4	5	4	5	4
2	10	7	6	3	3	4	3	1	4	2	4
2	10	8	7	4	4	3	3	4	4	4	2
2	10	9	2	1	0	1	1	3	3	3	2
2	10	10	3	1	1	1	1	4	5	3	4
2	10	12	4	2	3	3	3	5	6	6	6
2	10	13	6	3	3	4	3	4	5	3	3
2	10	14	6	2	4	4	3	1	5	2	2
2	10	15	8	4	3	4	2	5	6	5	4
2	10	16	4	2	1	3	1	3	3	4	2
2	10	18	5	3	3	3	3	4	6	4	3
2	10	19	2	0	1	2	1	2	5	2	0
2	10	20	4	2	2	2	2	4	4	3	2
2	10	21	6	5	3	2	3	4	4	4	3
2	10	22	3	0	0	2	0	2	3	1	2
2	10	23	2	0	0	1	0	0	2	1	0
2	10	24	7	1	4	3	2	4	5	6	3
2	10	25	5	2	3	3	2	3	4	2	0
2	11	26	6	6	4	4	6	5	6	5	3
2	11	27	1	0	0	2	0	2	3	2	1
2	11	28	5	6	3	2	6	5	6	6	5
2	11	29	6	6	4	5	6	5	6	4	2
2	11	30	0	0	0	1	0	1	3	1	0
2	11	31	8	6	4	4	6	5	6	4	6
2	11	32	7	6	3	5	6	6	6	6	6
2	11	33	6	6	4	3	6	4	6	5	4
2	11	34	6	6	4	4	6	4	6	5	6
2	11	35	5	6	4	4	6	4	6	3	2
2	11	36	9	6	4	4	6	5	6	6	5
2	11	37	5	6	2	2	6	3	5	4	2
2	11	39	5	6	2	2	5	3	4	3	2
2	11	40	6	6	3	3	6	4	6	6	5
2	11	41	6	5	2	2	6	5	6	6	5
2	11	42	6	6	4	5	6	4	5	4	3
2	11	44	8	6	5	6	6	6	6	6	6
2	11	45	8	6	4	4	6	5	6	5	4
2	11	46	5	6	2	2	6	4	6	5	6
2	11	47	8	6	4	4	6	4	6	6	6
2	11	48	6	6	2	3	6	5	6	6	6
2	11	49	8	6	4	5	6	5	6	6	6
2	11	50	6	6	3	4	6	4	6	5	4
2	6	60	4	0	1	3	1	6	5	1	3
2	6	61	3	1	0	2	0	2	6	6	6
2	6	62	3	1	2	3	1	5	6	3	3
2	6	63	5	1	3	4	2	5	4	3	3
2	6	64	7	5	4	5	3	6	6	6	5
2	6	65	6	5	5	4	3	4	5	5	4
2	6	67	5	5	4	5	3	5	6	6	5
2	6	68	4	4	2	3	2	4	2	5	2

T	Rm	ID	H	1	2	3	4	5	6	7	8
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3	10	3	11	6	6	5	6	6	5	6	6
3	10	4	12	5	5	5	6	5	6	4	5
3	10	5	7	5	4	4	5	6	6	6	6
3	10	7	7	5	3	3	5	3	5	2	4
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WRITING DATA: SUN VALLEY SCHOOL, GRADE 3, TIMES: 1, 2, & 3

S	T	Gr	Rm	ID	H	1	2	3	4	5	6	7	8	9	10
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1	1	3	13	182	7	4	1	5	0	0	4	3	4	4	4
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T	Rm	ID	H	1	2	3	4	5	6	7	8	9	10
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				130											
				135											
1	1	3	8	140	7	0	4	4	4	0	4	4	4	4	4
				145											
				146											
				149											
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				169											
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				186											
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				194											
				200											
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3	13	188	6	4	0	4	0	1	2	4	6	4	6
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3	13	194	5	4	4	4	3	1	3	4	6	4	6
	14	200											
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BEST COPY AVAILABLE

WRITING DATA: SUN VALLEY SCHOOL, GRADE 4, TIMES: 1, 2, & 3

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1	1	4	16	264	10	6	6	4	0	6	6	6	6	6
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2	16	256	7	5	4	3	3	2	4	6	4	4
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2	16	260	7	5	4	4	0	4	4	6	3	4
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2	49	278	5	4	4	3	0	3	5	6	4	6
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T	Rm	ID	H	1	2	3	4	5	6	7	8	9
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3	15	235	5	5	4	3	2	4	3	5	3	3
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3	15	237	9	6	6	5	6	4	4	4	5	5
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1	1	4	50	312	6	6	5	2	2	6	4	4	2	4	2	50	312	9	5	4	5	2	5	6	5	4	6	3	15	312	8	6	6	4	2	4	6	6	5	5
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WRITING DATA: SUN VALLEY SCHOOL, GRADE 4, TIMES: 1, 2, & 3

S	T	Gr	Rm	ID	H	1	2	3	4	5	6	7	8	9
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1	1	4	15	229	4	4	3	3	0	3	2	4	3	3
1	1	4	15	230	9	6	4	5	0	5	5	5	6	5
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1	1	4	15	239	9	5	5	4	0	5	6	6	6	6
1	1	4	15	241	4	1	5	3	0	3	5	5	3	2
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1	1	4	15	243	11	5	5	6	5	6	6	6	6	6
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WRITING DATA: SUN VALLEY SCHOOL, GRADE 5, TIMES 1, 2, & 3

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1	1	5	51	334	4	0	3	3	5	0	0	0	4	5	5	5
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2	49	287	5	2	2	2	5	3	0	2	3	4	2	2
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3	47	347	8	6	5	5	6	5	4	6	5	6	5	6
3	47	349	7	6	4	5	0	1	3	5	6	5	5	5
3	47	350	7	6	5	4	3	3	4	5	4	6	4	4
3	47	351	8	6	4	2	6	2	4	5	5	6	4	5
3	47	352	8	6	4	2	6	3	6	6	4	6	4	6
3	47	353	8	5	6	5	5	3	4	5	4	5	4	3
3	47	354	7	6	5	3	6	2	5	5	4	5	4	4
3	47	355	9	6	4	5	5	2	5	6	4	5	4	6
3	47	356	7	6	6	5	5	2	4	6	5	6	5	5
3	47	357	7	6	5	5	6	1	3	5	5	6	5	4
3	47	358	8	6	6	5	6	3	4	6	5	6	4	6
3	47	359	6	5	4	4	6	0	4	2	4	5	5	4
3	47	360	7	6	5	5	5	0	4	5	4	6	4	4
3	47	361	9	5	6	0	6	3	6	6	5	6	5	6

1	1	5	47	362	4	0	3	1	1	0	0	0	3	3	5	4
1	1	5	47	363	6	0	0	3	2	4	0	0	4	4	4	4
1	1	5	47	364	2	0	0	1	2	0	0	0	3	4	4	4
1	1	5	47	365	3	0	0	0	2	1	0	0	3	4	5	1
1	1	5	47	367	2	0	2	2	2	0	0	0	3	3	3	3
1	1	5	58	368	2	0	0	2	4	2	2	0	2	2	2	2
1	1	5	58	369	4	0	0	2	3	2	0	0	4	4	4	5
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1	1	5	58	371	6	0	0	2	4	0	3	0	5	5	4	4
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1	1	5	58	376	4	5	1	3	3	0	2	0	4	4	4	4
1	1	5	58	377	4	0	0	2	4	1	3	0	3	3	4	4
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1	1	5	58	382	8	6	0	5	6	2	1	1	6	5	5	4
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1	1	5	58	385	0	0	0	0	1	0	0	0	1	1	1	1
1	1	5	58	386	7	6	0	3	5	2	3	1	4	5	5	5
1	1	5	58	387	4	0	0	4	6	0	0	0	2	2	2	3
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1	1	5	58	389	4	0	0	3	4	2	1	0	4	4	5	5
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1	1	5	58	391	4	0	0	3	3	2	0	0	6	5	4	4
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1	1	5	52	393	7	1	3	3	6	2	0	1	4	5	4	4
1	1	5	52	394	8	0	2	4	6	5	0	1	6	5	6	6
1	1	5	52	395	5	0	0	2	4	3	0	1	4	4	4	3
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1	1	5	49	269	7	4	6	4	0	6	6	6	6	6		
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1	1	5	49	271	6	3	3	3	0	4	2	2	4	3		
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1	1	5	49	274	4	4	4	3	0	2	4	6	2	4		
1	1	5	49	275	6	3	5	4	0	5	5	6	5	6		
1	1	5	49	276	6	4	6	4	0	5	5	5	4	4		
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2	47	362	5	6	5	3	1	0	0	0	4	6	4	5
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2	48	379	4	0	6	6	0	0	0	1	5	6	4	6
2	48	380	3	2	3	2	1	0	5	0	4	6	5	3
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2	48	382	2	2	2	0	0	0	0	0	3	6	3	4
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2	48	387	9	5	5	5	3	3	6	3	4	6	4	3
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2	48	389	8	6	5	4	3	1	5	3	3	6	5	4
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2	52	393	7	5	6	5	2	2	0	1	5	6	4	2
2	52	394	6	1	5	0	2	3	0	0	4	6	4	6
2	52	395	6	0	4	0	2	2	3	0	5	6	4	4
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2	52	398	6	0	5	3	2	1	0	0	4	6	6	6
2	52	399	7	5	5	6	5	2	0	2	5	6	5	6
2	52	400	8	6	6	6	4	2	0	2	6	6	6	4
2	52	402	5	0	5	2	1	1	0	0	3	6	3	4
2	52	403	6	5	5	2	3	1	0	0	4	6	6	4
2	52	404	3	3	1	0	1	0	0	0	4	5	4	3
2	52	405	5	1	2	0	3	0	0	0	4	6	4	4
2	52	406	6	0	5	2	3	1	0	0	5	6	6	4
2	52	407	6	0	3	2	4	1	0	0	3	5	4	4
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2	52	411	5	0	5	2	2	0	0	0	4	6	4	4
2	52	412	6	6	6	4	2	2	0	0	4	6	5	4
2	52	415	6	2	4	2	3	2	0	0	5	6	4	4
2	52	416	5	0	3	3	2	1	3	0	3	4	2	4

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3	47	363	10	6	6	5	6	4	5	6	5	6	5	5
3	47	364	6	4	5	6	3	3	5	6	4	6	4	6
3	47	365	10	5	6	5	6	3	6	6	5	6	5	6
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3	48	381	7	6	4	5	0	3	5	2	4	6	3	5
3	48	382	9	6	5	5	5	5	5	5	5	6	5	5
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3	48	384	10	6	5	6	5	5	4	6	5	6	4	5
3	48	385	5	5	0	3	3	3	4	3	5	6	5	5
3	48	386	11	6	5	3	6	6	6	6	5	5	6	6
3	48	387	9	6	5	4	6	6	4	6	4	6	5	5
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3	48	389	8	6	5	4	5	2	4	6	6	6	6	5
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3	52	402	10	6	6	5	5	2	0	6	5	6	6	6
3	52	403	9	5	5	5	5	4	3	6	4	6	4	6
3	52	404	7	4	4	4	3	2	3	4	4	5	4	3
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3	52	416	6	4	0	0	3	2	4	6	5	6	4	5

	1	5	49	278	5	3	5	4	0	5	6	6	4	6		
1	1	5	49	280	4	0	1	2	2	2	0	0	4	5	4	5
1	1	5	49	283	4	5	0	3	5	2	0	0	4	5	4	4
1	1	5	49	290	2	0	0	3	3	3	0	0	1	4	1	2
1	1	5	51	329	7	0	4	4	6	2	3	3	4	6	6	6
1	1	5	51	341	5	0	3	4	5	1	0	3	2	6	3	4
1	1	5	47	345												
1	1	5	48	375												
1	1	5	52	401												
1	1	5	52	408	7	0	2	3	4	3	0	1	4	4	3	6
1	1	5	52	409	3	0	0	1	2	0	0	0	2	3	2	4

2	49	278												
2	49	280	1											
2	49	283	5											
2	49	290												
2	51	329	8	4	4	0	3	2	4	5	5	6	6	4
2	51	341												
2	47	345	4	0	0	0	1	2	0	0	3	6	2	5
2	48	375	5	6	4	0	1	0	0	0	4	5	4	2
2	52	401	5	0	3	0	2	0	2	0	4	2	5	4
2	52	408	6	0	2	2	3	1	0	0	5	5	5	4
2	52	409	4	0	2	2	3	0	0	0	4	6	4	4

3	49	278												
3	49	280	7	5	3	2	4	4	0	3	4	5	4	4
3	49	283	7	5	4	0	2	4	0	3	4	4	4	4
3	49	290												
3	51	329												
3	51	341	10	6	4	0	6	6	6	6	4	6	4	6
3	47	345												
3	48	375												
3	52	401												
3	52	408												
3	52	409												

GUIDELINES for HOLISTIC OR GENERAL IMPRESSION SCORING

General Impression Marking

Source: Manitoba Writing Assessment (1988): Final Report.

The same GIM scoring procedures will be followed at each grade level. As described, the writing products will first be marked holistically.

General Impression scoring provides a single impressionistic score awarded by markers who had been carefully trained and practiced to assure reliability.

After the first reading, the rater decides where the paper fits within a range of test papers ordered from the best paper to the poorest according to the scales and scores indicated below:

5 or 6	-	High
3 or 4	-	Middle
1 or 2	-	Low
0	-	Insufficient Material

The raters will focus their attention on the message as a whole. No particular quality or detailed feature such as spelling or syntax, will be allowed to constitute the whole score. The scores are concerned with more general or global criteria such as the quality of thought, the overall shaping of the presentation, and the general control of language evident in the writing. Raters take into account the requirements of the assignment (based on text type), the maturity of the students, and the expected levels of performance for the grade.

Reliability. If the scores of the two markers do not differ by more than one point, the two scores will be added together to give the final G.I.M. or analytic rating score.

If the scores of the two markers do differ by more than one point, the paper will be read for a third time by an adjudicator. In adjudicated cases, the final G.I.M. score will be obtained by applying the following rules:

(i.) If the adjudicator's rating is midway between the two ratings then the adjudicator's score is added to the average of the first two scores.

(ii.) Otherwise, the adjudicator's score is added to the closer of the two scores.The two scores of the markers are combined to obtain a final G.I.M. or analytic trait score which will range from 0 to 12 or 1 -3, respectively.

ANALYTIC TRAIT SCORING GUIDES

Criteria for Rating Writing Products: Description - Grade Two

Analysis is based on 8 areas. Each area is rated from 0 to 3 points for a maximum total for each rater of 22 points. The scores of the two raters will be doubled. This scoring system was used in the manitoba Writing Assessment Program (1988). The rating criteria were developed by adapting criteria described by Glazer and Searfoss (1988) and those in the Sun Valley Reading and Writing Continuum Handbook.

A. CONTENT

1. Focus/Theme or Topic to be Explained

(3) Clear central focus/theme, remains on topic throughout the paper.
(2) Topic or theme of the paper not clearly stated, needs to be inferred by the reader; theme not totally sustained.
(1) Topic and/or purpose of the paper is not stated, although can be inferred by the reader.
(0) No reference to the purpose or topic of the paper.

2. Choice of Detail and Elaboration of Ideas/Vividness of Expression

(3) Choice of details are elaborated in such a way as to be interesting, vivid, clear and real to the reader, incidents are well-chosen.
(2) May include details and some elaboration but fails to help the reader visualize the person/object/event adequately.
(1) Fails to elaborate appropriately, details may be inappropriate, fails to provide enough detail to make the description clear to the reader.
(0) Lack of detail and elaboration.

3. Wording

(3) Words are effective, concrete, and interesting.
(2) Some words are effective, concrete and interesting, but their use is inconsistent.
(1) Effective words are mostly absent, words are flat
(0) Words are inaccurate, pronouns are used as referents.

B. Organization

4. Organization and Sequence

(3) Orders information explicitly by using vocabulary such as first, next, last or implicitly by describing from most to least important attributes, has a clear beginning middle and end.
(2) Orders information either explicitly or implicitly, but missing <u>one</u> of the structural features, either a beginning, middle or end.
(1) Missing <u>two</u> of the organizational features, beginning, middle, or end.
(0) Lack of overall organization, failure to provide a beginning, middle or end.

C. USAGE AND MECHANICS

5. Sentences

(3) Variation in length and pattern; few if any structural weaknesses; good sense of sentence boundaries.
(2) Some variation in length and pattern, some structural weaknesses, some sense of sentence boundaries.
(1) No variation in length and pattern, many structural weakness, no sense of sentence boundaries.
(0) Inadequate sentence sense.

6. Usage

(3) Reasonable mastery of Canadian English; consistent verb and tense agreement, correct case and number (Do not penalize for spelling).
(2) Some mastery of Canadian English, mostly consistent verb tense agreement, mostly correct case and number.
(1) Little mastery of Canadian English, incorrect verb and tense agreement, incorrect case and number;
(0) Incorrect use of Canadian English.

7. Punctuation and Capitalization

(3) Punctuation markings and use of capitalization add effectively to the audience's perception of the message.
(2) Some use of correct punctuation and capitalization.
(1) Little use of correct punctuation and capitalization.
(0) Punctuation markings and capitalization are incorrect.

8. Spelling

(3) Correct spelling of common words, mostly correct spelling of others.
(2) Mostly correct spelling of common words, some correct spelling of others.
(1) Frequent incorrect spelling.
(0) Spelling interferes with intelligibility.

Criteria for Rating Writing Products: Compare/Contrast Text Structure - Grade Three

Analysis is based on 9 areas. Each area is rated from 0 to 3 points for a total of 27 points. This rating criteria was adapted from Englert et al (1991) and the Sun Valley School Reading and Writing Continuum Handbook. The scores of the two raters will be doubled.

A. CONTENT

1. Identification of the Two Things being Compared and Contrasted

(3) Clear statement regarding the two things being compared and contrasted.
(2) The two things being compared and contrasted are not clearly stated, reader must infer the purpose.
(1) The two things being compared and contrasted are mentioned but the reader does not get a clear sense of the text structure being used.
(0) No opening statement introducing the two items being compared and contrasted.

2. Description of How the Two Things are Alike

(3) A clear description of how the two things are alike. Includes sufficient information about a few parallel traits.
(2) The description lacks sufficient detail to describe the comparisons and includes only one or two parallel traits.
(1) Does not describe how the two things are alike in any detail, even on one trait.
(0) No attempt to compare two things, discussion centres around only one thing.

3. Description of How the Two Things are Different

(3) A clear description of how the two things are different.
(2) The description lacks sufficient detail to describe the differences clearly to the reader.
(1) Does not describe how the two things are different in any detail, mentions only one difference.
(0) No attempt to contrast two things, no differences mentioned.

4. Use of Key Words

(3) Key words are used systematically and accurately to convey the similarities and differences.
(2) Key words are used accurately but only occasionally and/or inconsistently.
(1) Presence of key words but used inaccurately.
(0) No key words present.

B. ORGANIZATION

5. Adherence to the Compare/Contrast Organizational Pattern

(3) Includes all the characteristics of the compare/contrast text structure and conveys information accurately to the reader, includes an opening statement, similarities, differences and conclusions.
(2) May include some characteristics of the compare/contrast text structure but fails to include all of the characteristics.
(1) Difficulty controlling the text structure, some characteristics and details omitted.
(0) Lack of overall organization.

C. MECHANICS AND USAGE

5. Sentences

(3) Variation in length and pattern, few if any structural weaknesses, good sense of sentence boundaries.
(2) Some variation in length and pattern, some structural weaknesses, some sense of sentence boundaries.
(1) No variation in length and pattern, many structural weakness, no sense of sentence boundaries.
(0) Inadequate sentence sense.

6. Usage

(3) Reasonable mastery of Canadian English, consistent verb and tense agreement; correct case and number (Do not penalize for spelling).
(2) Some mastery of Canadian English, mostly consistent verb tense agreement, mostly correct case and number.
(1) Little mastery of Canadian English, incorrect verb and tense agreement, incorrect case and number.
(0) Incorrect use of Canadian English.

7. Punctuation and Capitalization

(3) Punctuation markings and use of capitalization add effectively to the audience's perception of the message.
(2) Some use of correct punctuation and capitalization.
(1) Little use of correct punctuation and capitalization.
(0) Punctuation markings and capitalization are incorrect.

8. Spelling

(3) Correct spelling of common words, mostly correct spelling of others.
(2) Mostly correct spelling of common words, some correct spelling of others.
(1) Frequent incorrect spelling.
(0) Spelling interferes with intelligibility.

Criteria for Rating Writing Products: Explanation Text Structure - Grade Four

Analysis is based on 8 areas. Each area is rated from 0 to 3 points for a total of 24 points. These criteria system were adapted from Englert et al (1991) and the Sun Valley School Reading and Writing Continuum Handbook. The scores will be doubled, totalling the scores of the two raters.

A. CONTENT

1. Introduction of the Topic to be Explained/Presence of Background Information

(3) Clear statement made regarding the purpose or the background of the topic.
(2) Topic and/or purpose and background of the paper not clearly stated, needs to be inferred by the reader.
(1) Topic and/or purpose and background of the paper is not stated, although can be inferred by the reader.
(0) No reference to the purpose, background or topic of the paper.

2. Inclusion of Key Words/Special Terms

(3) Key words/special terms used systematically and accurately to convey the sequence.
(2) Key words/special terms used accurately but only occasionally and/or inconsistently.
(1) Presence of key words/special terms but used inaccurately.
(0) No key words/special terms present.

3. Provision for a Comprehensive Sequence of Steps With Sufficient Detail To Explain Underlying Reasons

(3) Steps presented clearly and sequentially. Includes sufficient details for the naive reader.
(2) Steps presented sequentially, but missing some details for the naive reader.
(1) May include some steps - however many details omitted and reader needs to infer.
(0) Lack of overall detail and a failure to provide a step-by-step explanation.

B. ORGANIZATION

4. Adherence to Explanation Organization/Procedure/Steps

(3) Includes all characteristics of explanation text structure and conveys information accurately to the naive reader.
(2) May include characteristics of the explanation text structure but fails to convey the details necessary for the naive reader.
(1) Difficulty controlling the text structure, some characteristics omitted, specific details omitted.
(0) Lack of overall organization and detail.

C. MECHANICS AND USAGE

5. Sentences

(3) Variation in length and pattern, few if any structural weaknesses, good sense of sentence boundaries.
(2) Some variation in length and pattern, some structural weaknesses, some sense of sentence boundaries.
(1) No variation in length and pattern, many structural weakness, no sense of sentence boundaries.
(0) Inadequate sentence sense.

6. Usage

(3) Reasonable mastery of Canadian English, consistent verb and tense agreement, correct case and number (Do not penalize for spelling).
(2) Some mastery of Canadian English, mostly consistent verb tense agreement, mostly correct case and number.
(1) Little mastery of Canadian English, incorrect verb and tense agreement, incorrect case and number.
(0) Incorrect use of Canadian English.

7. Punctuation and Capitalization

(3) Punctuation markings and use of capitalization add effectively to the audience's perception of the message.
(2) Some use of correct punctuation and capitalization.
(1) Little use of correct punctuation and capitalization.
(0) Punctuation markings are incorrect.

8. Spelling

(3) Correct spelling of common words, mostly correct spelling of others.
(2) Mostly correct spelling of common words, some correct spelling of others.
(1) Frequent incorrect spelling.
(0) Spelling interferes with intelligibility.

Criteria for Rating Writing Products: Writing a Scientific Report - Grade Five

Analysis is based on 9 areas. Each trait is rated from 0 to 3 points. This criteria was adapted from the Manitoba Writing Assessment (1988) and the Sun Valley School Reading and Writing Continuum Handbook. Two raters score the writing products according to each set of traits. The two scores are then totalled, making the score for each trait 6 points. No aggregate score is calculated. A rating of 5 or 6 on a particulat trait is interpreted as being high, 3 or 4 is average, and 1 or 2 as less tnam satisfactory.

A. CONTENT

1. Introduction of the Problem to be Explained

(3) Clear statement of the problem/question to be investigated.
(2) Problem/question for investigation not clearly stated, needs to be inferred by the reader.
(1) Problem/question for investigation is not stated, although can be inferred by the reader.
(0) No reference to the problem/question to be investigated or purpose of the paper.

2. Description of Method

(3) Steps presented clearly and sequentially. Includes sufficient details for the naive reader.
(2) Steps presented sequentially, but missing some details for the naive reader.
(1) May include some steps - however many details omitted and reader needs to infer the steps.
(0) Lack of overall detail and a failure to provide a step-by-step explanation.

3. Inclusion of Key Words (related to scientific report writing)

(3) Key words used systematically and accurately to convey the sequence.
(2) Key words used accurately but only occasionally and/or inconsistently.
(1) Presence of key words but used inaccurately.
(0) No key words present.

4. Inclusion of Results/Discussion of the Conclusions and Implications

(3) Reports the results of the investigation in a comprehensive fashion
(2) Reports some results, but lacks sufficient information
(1) Results of the investigation are nor reported clearly nor in sufficient detail
(0) Results are not reported in an intelligible way.

B. ORGANIZATION

5. Adherence to The Conventional Organization Pattern of Scientific Reports

(3) Includes all characteristics of scientific report writing and conveys information accurately to the naive reader.
(2) May include characteristics of scientific report writing but fails to convey the details necessary for the naive reader.
(1) Difficulty controlling the structure of scientific report writing, some characteristics omitted, specific details omitted.
(0) Lack of overall organization and detail.

C. MECHANICS AND USAGE

6. Sentences

(3) Variation in length and pattern, few if any structural weaknesses, good sense of sentence boundaries.
(2) Some variation in length and pattern, some structural weaknesses, some sense of sentence boundaries.
(1) No variation in length and pattern, many structural weakness, no sense of sentence boundaries.
(0) Inadequate sentence sense.

7. Usage

(3) Reasonable mastery of Canadian English, consistent verb and tense agreement, correct case and number (Do not penalize for spelling).
(2) Some mastery of Canadian English, mostly consistent verb tense agreement, mostly correct case and number.
(1) Little mastery of Canadian English, incorrect verb and tense agreement, incorrect case and number.
(0) Incorrect use of Canadian English.

8. Punctuation and Capitalization

(3) Punctuation markings and use of capitalization add effectively to the audience's perception of the message.
(2) Some use of correct punctuationand capitalization.
(1) Little use of correct punctuation and capitalization.
(0) Punctuation markings and capitalization are incorrect.

9. Spelling

(3) Correct spelling of common words, generally correct spelling of others.
(2) Mostly correct spelling of common words, some correct spelling of others.
(1) Frequent incorrect spelling.
(0) Spelling interferes with intelligibility.

EXEMPLARS FOR GENERAL IMPRESSION SCORING

Exemplars for General Impression Scoring

In grading papers for general Impression, raters are concerned with general or global criteria, focusing on the message as a whole, the quality of thought, overall shaping, and general control of language. No particular quality or feature such as spelling or syntax is allowed to constitute the whole score, but the maturity of the students and expected levels of performance for the grade are considered. The grading scale is:

5 or 6	-	high
3 or 4	-	middle
1 or 2	-	low

A paper with insufficient material receives a score of 0.

Grade Two: Writing Descriptions

In scoring descriptive writing holistically, the following assignment requirements are taken into account. To be rated High a paper must have: 1) a clear focus; 2) elaboration; and 3) a beginning, middle, and end. In each exemplar, the prompt was to tell why either a friend, family member or the writer him/herself was special.

Insufficient Material - 0

Kristin

Kristin is my hafsister
Kristin wres [works] at a great
Kristin tats [takes] me wot [out] to [too]
The great smt and I wach [watch]
The gostus and the halc. and
The wals

Rationale:

The reader must struggle to make sense of this paper. Except for the first sentence that presents a complete idea, all the rest of the sentences are either incomplete or run-on. The writer seems to use the line as a sentence marker and has no sense of the role that punctuation plays in creating meaning. There is no ending.

Low 1 - 2

My Dad

me and my Dad went ot cuBs weh [with] me. then we play BasktBall. then we shevld the Dive way. then we went to the moves and saw anguls in the outfeld. then we went to the Blew Bomrs.

Rationale:

This writing is not so much a description focusing on "My Dad", as a catalogue of events. There is no beginning to inform the reader of the writing purpose and no end. There is no elaboration regarding what the two did at cubs that was special, or what occurred when they shovelled the driveway that was bonding. While the movie is named, the writer quickly moves on to list another event.

Middle 3 - 4

Grandma

My grandma goes gambooling at club rugent and she goes away most of the time. My grandma lives cloos to us. She lives in city of Winnepig. My grandma goes gambooling in Floda and my grandma brings me a souvener every time she goes there. She all reddy broght me a brink bottle with a rockit on the front and back. My grandma is the rechist one in our famly.

Rationale:

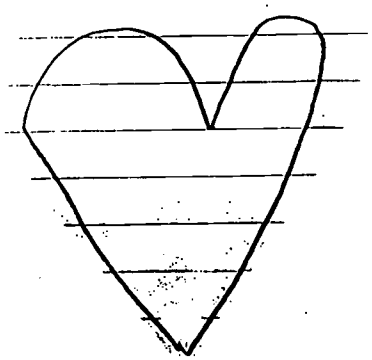
This paper maintains its focus, has a beginning, middle and end and contains enough elaboration to help the reader develop a colourful image.

Grandpa

Me and my Mom in my Grandma my sister and my Dad all the time when my Grandma comes over we go to see my Grandpa because he's in the hospital he can hardaley walk and he's sike and his bake herts.

All the time he youse to come to are house for christmas but this year he was in the hospital and the nersis woden't let him go to are house. My

best present was my Grandpa can live thru christmas.



Rationale:

This paper describes "Grandpa" in such a way that the reader is able to develop an image - he can hardly walk and his back hurts. There is paragraphing to signal that the writer is moving into the body of his/her text. The writer reflects both back and forward in time from the past to the present to express poignancy. There is an appropriate , wistful ending.

High 5 - 6

Hi my name is David and I'm going to tell you how I'm speicell. I'm speicell because I like other thing's then other peipell like...playing Sega. Because Nintodo is to sipell [simple] and Sega is a challinch [challenge]. Because you relly af to kep your eye on the screen, and I all so like drawing U.f.o.'s. I'm speicall because I can do other things that other pepall can't do. Thes thing's are drawing U.f.O.'s.

Rationale:

This paper has a commanding lead and explains the writing purpose in the first sentence. The writer elaborates on his theme - why he is special and why playing Sega is a favourite activity compared to playing Nintendo. There are good word choices - "too simple" and "a challenge". There are a number of embedded ideas and sophisticated syntax "I'm speicell because I like other things then other peipell like...playing Sega." the reader is able to develop an image of a "computer-age kid". There is an ending, but the paper would have been better had the last sentence been omitted.

My Name is Alana and I am 7 years old. I like to play Basball with my Dad because he is fun! I like to go to IGA with my sister Kristen because I like to Buy chocholet Bars. I like to play speed with Angela because she is a

good player. I like to go to school because I like to write alot. I also like to play with my freinds like Shannon and Angela because thay are fun. I collecket stekers [stickers] and I like to trede them with my sister Kristen. I also collecket chereshed teddes to But I do not trad this colleckeon Because they are to cute. I also like to play in my bakeyard Because I have a fort in my Bake yard. I also like to play tag Because I love to run. I like to Do math in school because it is fun. I like play sega Because it is eze to play.

I like to play tag Because it is fun and my sister always tags some one else.

Rationale:

Although there is almost too much listing and too much information, this paper meets the criteria regarding having a clear focus, a beginning, middle and end, and elaboration. The most interesting part is the description of collecting - trading stickers but not the cherished teddies. Developmentally, this paper is typical of the kind of writing generated by Grade Two Students.

Grade Three: Compare/Contrast Text

In scoring compare/contrast text holistically, the following requirements of the assignment must be considered. To be rated High a paper must : 1) identify what is being compared and contrasted and tell why this is important to do; 2) state how the items in the topic are alike; 3) state how they are different; and 3) come to a conclusion. The prompts were either to compare spring and fall, winter or summer, or a watch and a clock.

Low 1 - 2

Fall + Spring

this is coparasun betuwen Fall + Spring
Fall + Spring are the sam because they are secenses. in spring the activities cum out and the animals cum out. People Play Gams and People have picnics. the weather is worm.

Changes because lefs [leaves] foll flowers bloom. People plant trees. People wader the gardens

Rationale:

The organizational pattern of the paper is difficult to follow. In the first section there are a cluster of ideas focusing on Spring. The reader assumes that the second section will elaborate on Fall, but this expectation is not met. Only one reference to Autumn is made (leaves falling). This confuses because in the same sentence a connection is made to flowers blooming. Only one sentence tells how Spring and Fall are alike (they are seasons). The writer also fails to inform the reader why knowing the similarities and differences between Fall and Spring is important. There is no closure. There is very little abstraction. The activities described tell what people do. Overall, the paper lacks shaping and denotes inconsistency of thought.

Fall - Spring

Fall and spring are to Diffent kind of seasons. Spring is warm. Fall is cold. In fall people hunt animals like deers bears foxs all that stuff. Birds like the woodpecker. the woodpecker can dig good. in spring their is lots and lots of games sports and activities. people were different clothes. in the fall all of the gardens do not have any more vegetables fruit and all that stuff.

This is the comparaion of my story fall and spring

Rationale:

While this paper has a relatively strong beginning in which it contrasts the different weather experienced in the Spring and Fall, it quickly deteriorates. The writer talks about hunting animals in the Fall but does not describe a contrasting Spring activity to balance the thought. Thus shaping is a problem. The language is inadequately controlled, there being one incomplete sentence and a tendency to conclude lists of items with "all that stuff", forcing the reader to fill in the blanks. There is little elaboration. Instead, categories (games, sports and activities and clothes) are listed without identifying similarities or differences according to the topic. The writing genre is informative but the author uses the word "story" in the concluding sentence.

Middle 3 - 4

I will be comparing nature of summer and witer. I want to capar this because I like the outdoors. The ways that summer and witer are alike are

they are both seasons. The differences are that in summer it is hot but in winter it is cold and in summer there is more life such as flowers, animals and bugs but in witer animals hibernate and migrate. I think that in summer there is more nature because there is more plants and animals.

Rationale:

This paper: 1) identifies what is being compared and contrasted and why; 2) tells how summer and winter are alike (one reason) and different; and 3) makes an attempt at closure. The ideas are presented in a straight forward fashion - "The ways: that summer and winter are alike are..."; "The differences are ...", but one sentence has 35 words. There are advance terms used (hibernate and migrate) but more detail is needed. "Nature" is still very much at work in winter.

We are compering a watch and a clock. A watch can tell us the hour minutes and seconds. A watch is a plasitc or metal thing that has a strap and you can carry it. A clock is some thing that has hands and you can't carry. Some clocks wake you up. You can find a clock in many plases. Both clock and a watch have numbers, they tell us time and they are electric. Out of them I think that the is more usfule. Because you find them in lots of plases.

Rationale:

Comparing a watch and a clock was a difficult subject but the writer introduces the topic and organizes the body of the text by elaborating first on the identifying features of watches, then the characteristics of clocks, and finally on how the two are alike. There is a conclusion, but a key word is omitted.

fall and Spring

This is a comparison of fall and Spring. Sim In the two seasons lots of activitie are going on. And if you go to the park games are being played alsmost everwere. Lots of changes are going on. People are fixing cars. It is nice. The weathe is change. And most of the sports are starting. It is fun to wait [watch] the sports games and activitie. Lots of stuff is going on in school. dif But in fall all of the leaves are turning colors like yellow, gold, red and orange. And in Spring the leaves are turning green. In Spring more homes are being made to live in. And fall some peopol take trip's to warm placeise and in spring they move back.

Rationale:

The admirable features of this writing are the identification of purpose and the attempt to use organizational headings, even though they appear to be after thoughts. A pleasant image of Spring is pictured. The paper fails, however, to come to an appropriate end.

Spring and Fall

In the following paragraph I will be comparing Spring and fall on how they are alike and how they are diffarint on these following categores: weather, sports, clothes we where, and holidays.

In spring it is plus degress while in fall it is minus digress. In spring it is warm while in fall it is cold. Spring has rain while fall has snow. There is hails in spring while there is wind in fall.

We can play hokey all year around but in spring we play outdoor hokey while in fall we play indoor hokey.

In spring we wear shortes, tank top, sheart, bathing suit, dress, sadeles while in fall we wear pantes, sweat shert, snow suit, mittens/gloves, hat and boots.

Now that you now [know] alot about spring let me tell you which seson I like best. I like spring better because I can do alot of camping.

Rationale:

This paper begins with an introduction that identifies both purpose and organization. Extra lines are left to indicate paragraphing, and the beginning of a new category. The key word "while" is used to link the different ideas which contrast the topic. While there is only one similarity named [We can play hockey all year around], word choice "plus/minus degrees" is good. There is an appropriate conclusion in which the writer directly addresses her/his audience. The writer also speaks confidently using a personal voice.

I am comparing Winter and Summer and how the two sisons are the same and how the two sisons are different. I'm doing this because I woud like to see wich sisons is funer that the other! But for now I'm just going to tel you how they are the same. Winter and Summer are the same because you

can play sports in both sisons like fishing (you can go ice fishing and normal fishing) and you can hockey like indoor hockey, outdoor and ice hockey. In both sisons the sun is shing wen if its Winter the sun is shing! thay are both sisons. This is the last two things they both have holidays like spring breack and cristmas holaday one more thing they both have fastavals like the cildrens fastvale, fastivale du voyagers and facks dance fastvale. Now I will tel you the differentes of Winter and Summer is in it is cold wether, you have to wear wearmer clothing, theres snow, theres no leves, you get frost biets and you have o were a touk. on the other hand in Summer it's warm weather you were coler clothing, there's grass, there's leves, you get sun brns and you wear a hat. I think that Summers more fun because there is more Summer bracks.

Rationale:

This paper contains an introduction that states its purpose and explains why. It is well-rounded and shaped because the writer returns to his/her purpose in the conclusion. The personal tone indicates that the writer has a sense of audience. The writer also senses that the reader may be getting bored and maintains interest by stating "this is the last two things...", and "one more thing...". There are two organizational blocks, one which describes how the topics are the same and the other which tells how they are different. The ideas are original in supporting the same/different argument.

Grade Four: Exposition

In keeping with the assignment requirements, the holistic rating of exposition ["how-to" writing] requires taking into account whether the writer has: 1) identified the topic and writing purpose; 2) explained the relevance of the information (why the reader might need to know "how to"); 3) explained the steps to follow; and 4) brought the paper to closure. The prompts were to tell either how to put a flashlight together; how to construct an electrical circuit; or how to make a funnel.

Low 1 - 2

batterie aperride [apparatus] flash light. Take body and scrow the foot in. Take the socket, put in the light buble and screw in light bulble hoder. Take the socket and put in the red ring. put two batteries in the body. scrow red ring onto the body. Tern on the flashlight.

Rationale:

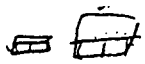
This paper just starts by listing the apparatus. Neither the topic nor the writing

purpose are identified. There are directions but no accompanying diagrams to clarify them. Not every flashlight has a "red ring". There need to be more detail regarding how to put the batteries together. There needs to be an ending.

A funnel

1. we need a paper and fold it in half.

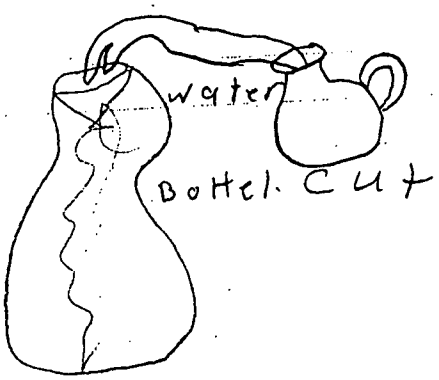
2. you mark in 15 cm and you mark it with 7 1/2



3. you fold it in two pieces then you take the paper and take 3 side [s] and

4. then you cut the middle

5. you have a funnel



Rationale:

While this paper has both a title, diagrams and numbered steps, the directions are not clear. The reader wonders: 1) Why one needs to first mark in 15 cm and then 7 1/2 ; 2) how when you fold the paper in tens you can "take 3 sides"; and 3) why you cut the middle and not the top. No purpose for writing is given, nor the relevance of the activity explained.

Middle 3 - 4

"Ho to make a funnel"

1) Take a peice of paper about 15 cm across.
2) Cut out a circle about 15 cm
3) Fold the circle it half 2 times. make it look like this

4) Cut the point off the bottom. make the second fold look like a fan

fan

5) Press your fingers in a little packet in the side

6) Open funnel

7) Put funnel in a bottle

8) Pour something into it

There!!

Rationale:

This paper gives more explicit detail and diagrams regarding how to construct a funnel. Words such as "circle" and "fan" are excellent descriptors. However, the writing purpose and topic are not addressed. The ending of "there" is insufficient for bringing the paper to a close.

How a Circuit works

Introduction
Hi I ' am going to show you how to put a circuit together step by step!

The matirials are a 1.5 volt D size battery, two wires, a mini light bulb, a light bulb holder and two pieces of mascing tape.

1) First you screw in the light bulb into the light bulb holder.

2) Take one wire and atach one end to one screw of the light bulb holder.

3) Take another wire and atach one end on the other screw of the light bulb holder.

4) Take one end of a wire and put it on the negitive side and keep it there with mascing [masking] tape.

5) Then you take the other end of the other wire and put it on the positive side and the light bulb comes on

Conclusion
The Energy left the battery from the positive side, went into the wire it goes in the screw, then went into the light bulb holder, and then it went into the light bulb, then went back to the light bulb holder, then went to the other screw, then went to the wire, then went to the other wire, then you put the wire on the battery and hold it there with mascing tape and the light comes on.

Application
In the future we could use this if there are black outs.

Rationale:

This paper has many good features. It has an introduction, lists the required materials, and describes the steps to follow in constructing an electric circuit. Why one would need to know how to construct a circuit is left to the end. Perhaps its greatest fault lies in the description of how the circuit works which is given in one, run-on sentence. An accompanying diagram with arrows would have helped the reader understand that a circuit needs a continuous path to operate.

High 5 - 6

How to Build a Circuit/How a Circuit Works

Hello, I want to show you how to build an electrical circuit and how it works. I will give you materials, steps, how it works and how you can sell it.

Material

1.5 v size D battery 

2 small electrical wires 

1 small light bulb 

1 circuit plate 

2 pieces of scotch tape 

Steps

1) Screw light bulb into circuit plate 

2) Attach one end of one wire to one side of the circuit plate 

3) Put one end of the other wire on the other side of the circuit plate. 

4) Place the end of one wire on top of the negative side of the battery tape it down 

5) Put the other wire on the positive side of the battery, tape it on and the light should come on 

HOW IT WORKS

When you attached the second wire to the battery the electricity went in a circle, it starts at the negative side of the battery, goes through the 1st wire, goes through the circuit plate, to the second wire and starts over again.

How you can sell it

I decided to sell it as a pocket-size flashlight. To turn it on all you would have to do would be attach the positive wire.

Rationale:

In this paper, the writer demonstrates a sense of audience by explaining both the purpose and organizational framework of the paper in the opening paragraph. Although a little crowded, diagrams illustrate each step. The description of how an electrical circuit works is clear and the paper comes to an appropriate close.

How a circuit is made and how it works.

Hello! I am going to show you how to make an electrical circuit. I will show you the materials, explain to you step by step how to make it how to work the small circuit and a small application. Read this carefully.

Materials: What you will need:

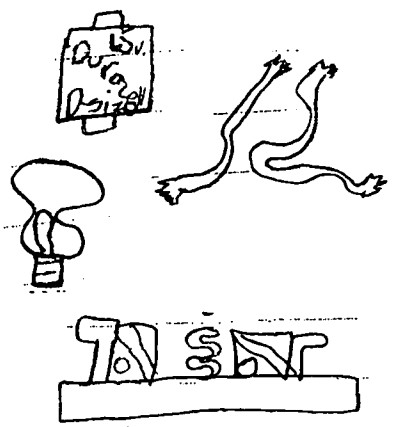
1) A battery 1.5 volt, D size

2) Two small electrical wires

3) A small lightbulb

4) A circuit plate\lightbulb holder

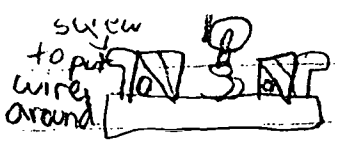
5) Two pieces of scotch tape



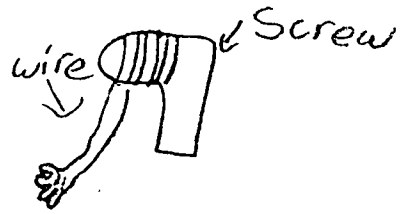
Steps: How to make the circuit:

1) Screw the small lightbulb into the circuit plate\light\bulb holder.

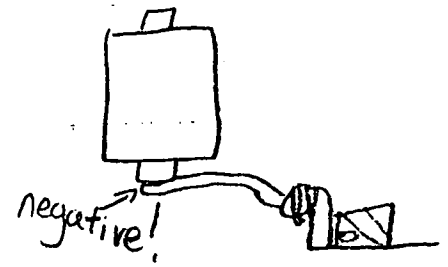
2) Put the 1 electrical wire on one side of the circuit plates\lightbulb holder's screw. (See step 3's picture for more details.)



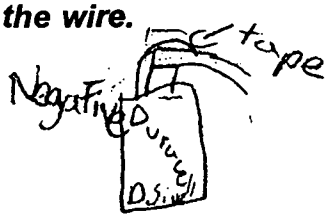
3) Put the other wire on the opposite side of the circuit.



4) Then take the battery and put one wire on the top of the negative side.



5) Use <u>one</u> piece of scotch tape to hold them together.
**** I mean <u>them</u> as in the battery and the wire.***



6) Then take the other wire and tape it on the positive side. It should light up. Use the other piece of tape to hold the battery and wire.

Conclusion: How it works:

Ha! You see? The battery's energy went through the negative side of the battery, through the wire into the screw, to the circuit plate\light bulb holder, to the light bulb screw and zzzzzTTTTT!!! The light flicked on! If it didn't work you might of had a dead battery or light bulb.

Application:

In the movies when someone has an insperation, they could have a band attached with the circuit to their head! With a piece of scotch tape on their finger they could pretend to scratch their head and flick!

<u>Rationale</u>:

The writer in this paper demonstrates command over his/her topic. S/he addresses the reader directly, indicating a well-developed sense of audience. The topic and purpose are identified, the materials and steps to follow are outlined with accompanying diagrams and the paper is drawn to an appropriate closure. The paper is well organized with numbered steps and the appropriate use of headings and key words. The application is imaginative and the vocabulary vivid - "inspiration", "flick"!

HOW TO MAKE A CIRCUIT

You are about to make a light bulb circuit. This is very easy to do. You only need the next few things to do so.
- a light bulb.
- a battery of any kind.
- and two old eletricle wires.

Once you have these things you are ready to begin.

Step Number One
Take your light bulb and one of your wires and put the wire on the little hole at the bottem of the bulb.

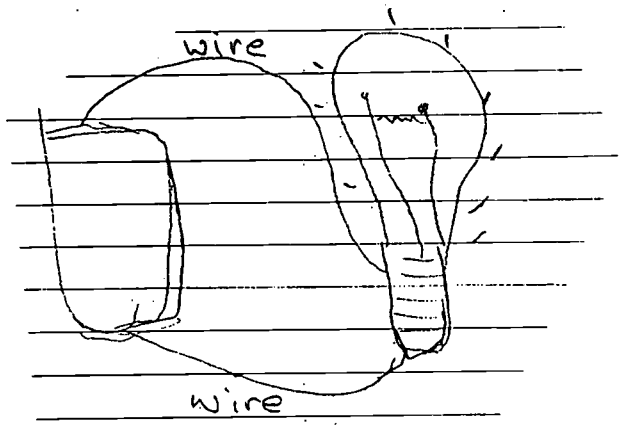
Step Number Two
Get a friend to take the other wire and put it in the hole of the bottem of the bulb.

Step Number Three
Your last step, put one wire into one side of the battery and put the other wire to the other side of the battery.

The circuit you just made works like this.
The power flow into the light bulb in one wire. It goes up along one of the wires in the middle. It pushes it's way through the bumpy little line which makes heat.
This heat also makes the light bulb light up. Once the eletrous push their through, they go down the other little wire, out the wire from the bottem and just keeps going around and around.

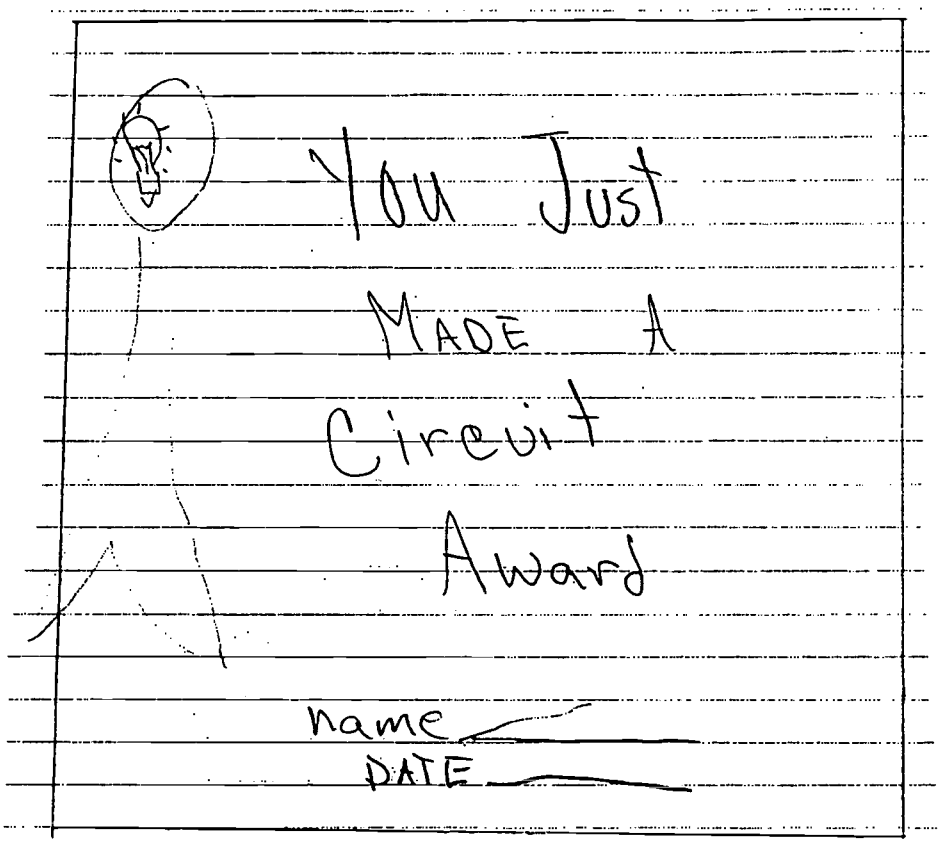
DANGER: There is not much danger in this process. If you do cut the wire you may see sparks but don't worry about his you will only get a little shock.

Here is a diagram what you just made.



Now you know how easy it is to do this. If your thinking of putting in new light you just need a bigger bulb, a bigger battery, and longer wires.

You should be proud you just made a circuit.



Rationale:

This paper meets all of the grading criteria. The writer conveys the notion that s/he is speaking directly to the reader. The directions are explicit, and the conclusion rewarding!

Grade Five: WRITING SCIENTIFIC REPORTS

In rating the writing of a scientific report for general impression, the following requirement of the assignment needs to be considered. A paper receiving a High rating must have: 1) a clear statement of the problem, question or hypothesis to be investigated; 2) a clear description of the experimental procedure; 3) a report of the results; 4) a conclusion; and 5) suggested implications regarding the findings.

Low 1 - 2

Fire Extinguisher

We started this experiment like this. We used 1 cup of viniger and a teaspoon of baking soda. Then we placed a tight container lid with a straw and plastersine witch held the straw in place. In the big container there was a very little container that held baking soda. The little container was held in place by a screw, but you can use other stuff like tape or glue. The candle was there to test the fire extinguisher. When everything is ready shake well and then tilt it then it will shoot out foam, it puts out the fire imidietly. The second time we tried Mme missed and spraid everything else exept the fire.

Rationale:

This paper fails to state the experimental problem. The reader has no idea what the purpose of the experiment is. The procedures and the apparatus are unclear. There is no diagram. It is not until the fifth sentence which talks about the candle that the reader obtains an inkling of what the experiment is about. The writing moves back and forth between the use of the past and present tenses. While the results of the experiment are described, there is no appropriate closure. The usefulness of a home-made fire extinguisher is not explained.

First she made the icstinglesher with baking soda and viniger. She used two cups. She did the Exspariment two times. It made a cemcil reaction.

What happend was she shook it and fizzed. She put the small contern in the big contener.

Rationale:

The writer of this paper has not grasped the idea of report writing. The paper is inappropriately organized and represents a description of what the student observed. The experimental problem has not been identified, nor is there a conclusion or suggested implications regarding the findings.

Middle 3 - 4

Matiriels

- ***Ten and a half scoops of baking soda***
- ***four cups of viniger***
- ***a container with a small container inside***
- ***a lid with a straw***
- ***a lighter***
- ***a candel***

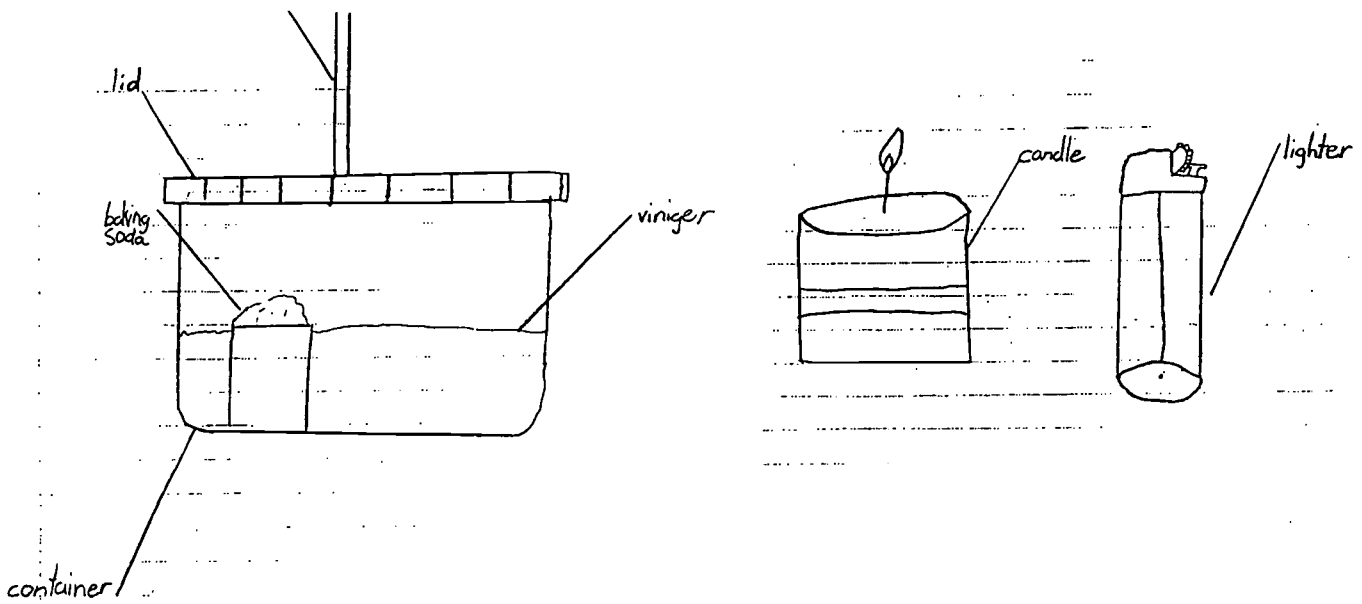
Question: How was the fire put out?

Observation

Mr. M put baking soda in the small container and then put the viniger in the large container. Next he put the lid on the container then lit the candle next he shook the container and the viniger and the baking soda mixed together and made an explosion of foam.

Conclusion

The experement worked the foam shot out of the straw and extingished the fire.



Rationale:

Compared to the previous two papers, this piece of writing exhibits the organizational framework of a scientific report. The materials are listed in detail, the experimental procedures are outlined (although under the incorrect heading of

observations) and the result is stated. The purpose of the experiment is hinted at in the question but the question needs to be more clearly related to the experiment itself. The diagram is an "add on" rather than an integral part of the report. The writer does not address the issue of implications.

The Fire Extinguisher

Materials

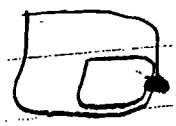
1) White Vinegar 

2) Teaspoon 

3) Small plastic glass 

4) Baking soda 

5) Lid with straw throught the side stuck with clay (6 cm) 



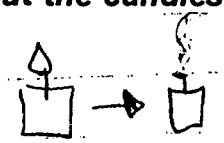
6) Jar that goes with lid witch has another Jar inside

7) Candle 

8) Matches 

Steps

Put one small teaspoon that goes into the small jar witch is in the big jar. We put the vinegar into small plastic glass. We lit the candle with the matches. We shook the jars and tiped them over. Lots and lots of bubles came out and put out the candles flame.



Hy: I think that the mixture of vinegar and baking soda will put out the flame

Ob: I observed that when M. M shook the jars tons of foam came out.

Re: I saw that when the baking soda and vinegar made a eruption and put the flame out.

Con: My Hypopthys was right the mixture of vinegar and baking soda put out the flame.

Rationale:

This paper reflects the organization of a scientific report. The materials, steps to follow, hypothesis, observations, results and conclusion are all present. There needs to be some kind of an introduction, however, to provide a context for the experiment. The writing demonstrates that the writer understands the topic, but there are no experimental implications included to bring the paper to an appropriate closure.

High 5 - 6

Question

What kind of liquid is the best kind to lubricate engines?

Hypothesis

I think that oil would be the best lubricant.

Apparatus

- ***3 test tubes***
- ***3 containers***
- ***cooking oil***
- ***water***
- ***liquid honey***
- ***3 marbles***

Procedure

1) Pour the water into one of the test tubes

2) Pour the oil into the other test tube

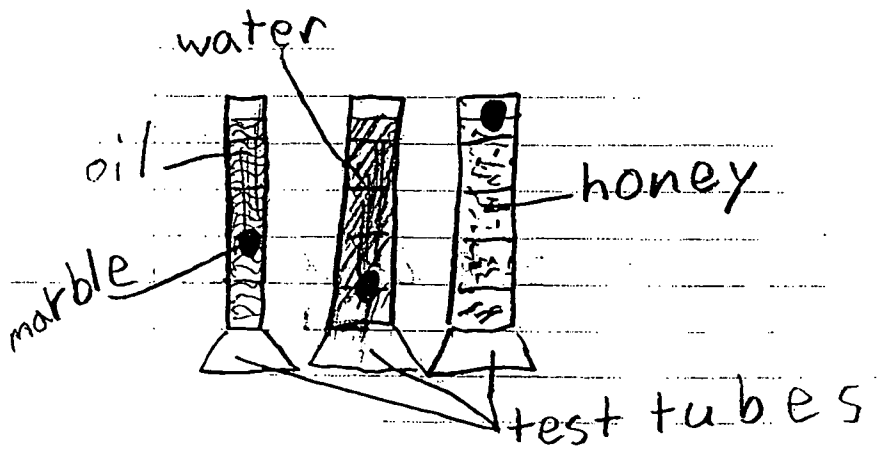
3) Pour the honey into the last test tube

4) Take the three marbles and drop one marble into each test tube simultaneously.

5) Observe what happens.

Observation

I observed that the marble dropped fastest in the water, a bit slower in the oil, and the slowest in the honey.



Conclusion

I concluded that the oil would be the best lubricant because the water was too thin and the honey was too dence.

Application

This will be usefull for making a lubricant suitable for use with moving machinery such as automobile engines.

Rationale:

This paper begins by stating the experimental problem, although the liquids being tested could have been named at the outset to add clarity. All of the elements relevant to writing an experimental report are present. The writer speaks directly to her/his audience. "Observe what happens", and uses the word "simultaneously" to indicate that the marbles must be dropped into the test tubes at the same time. The conclusion relates back to the problem to give overall shaping to the report. Practical applications are discussed, bringing the paper to an appropriate close.

Title: ***The force of friction in Different Liquids.***

Question: ***Which Liquid has the most friction?***

Hypothesis: ***I think honey has the most friction.***

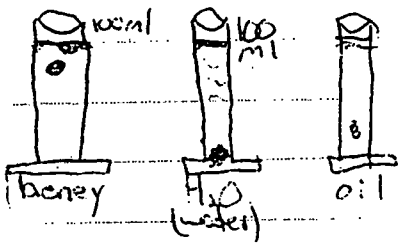
Material: ***- 3 100 ml test tubes***
- 3 marbles (same size)
- 100 ml of cooking oil
- 100 ml of H_2O (water)
- 100 ml of honey

Procedure
1) take 3 100 ml test tubes and line them up up on a table
2) put 100 ml of cooking oil into a test tube. Do the same with the honey and H_2O (water)
3) Drop 1 marble into every test tube at the same time.

Observations: ***The H_2O (water) had the least friction therefore it went the fastest. The honey had the most friction therefore it went the slowest. The oil had some friction but not as much as the honey so it went fast but not as fast as the H_2O (water)***

Conclusion: ***The honey has the most friction.***

Application: ***If your bike chain is stiff, your in a bike race and you want the chain to be loose you could pour oil (not water, it will rust the chain) on it and it will work.***



Rationale:

By giving the report a title, the writer establishes a context. Each component of writing up an experiment is addressed, but the question could have been made more specific by naming the liquids. In describing his/her observations, the writer successfully relates them to the topic of friction. Perhaps the best features of this paper are that it is precise and succinct.

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Signature: Beverley L. Zakaluk	Position: Professor
Printed Name: Beverley L. Zakaluk	Organization: Faculty of Education, U. of M.
Address: Room 269 Faculty of Education, U of Manitoba Winnipeg, Manitoba R3T 2N2	Telephone Number: (204) 474-9028
	Date: November 15, 1996

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