The impact of alternative scheduling practices on student performance in French I

Linda Moody Wallinger
William & Mary - School of Education

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THE IMPACT OF ALTERNATIVE SCHEDULING PRACTICES
ON STUDENT PERFORMANCE
IN FRENCH I

A Dissertation
Presented to
The Faculty of the School of Education
The College of William and Mary

In Partial Fulfillment
Of the Requirements for the Degree
Doctor of Philosophy

by
Linda Moody Wallinger
September 1998
THE IMPACT OF ALTERNATIVE SCHEDULING PRACTICES
ON STUDENT PERFORMANCE
IN FRENCH I

by Linda Moody Wallinger

Approved September, 1998

Robert J. Hanny, Ph.D.
Chair of Dissertation Committee

James H. Stronge, Ph.D.

Thomas J. Ward, Jr., Ph.D.
TABLE OF CONTENTS

Acknowledgments ................................................................................................................ vii

List of Tables ........................................................................................................................... ix

List of Figures .......................................................................................................................... xi

Abstract .......................................................................................................................................xii

Half-Title Page ..................................................................................................................... xiv

Chapter 1: The Problem ..............................................................................................................1
  Introduction .....................................................................................................................1
  Statement of the Problem ..............................................................................................3
  Research Questions .......................................................................................................3
  Significance of the Study .............................................................................................4
    Perceived Advantages of Block Scheduling for Foreign Language Classes ......................7
    Perceived Disadvantages of Block Scheduling for Foreign Language Classes ...............8
  Theoretical Rationale ....................................................................................................9
  Operational Definitions ............................................................................................ 13
  Limitations of the Study ........................................................................................... 14

Chapter 2: Review of Related Literature ............................................................................ 16
  Introduction ................................................................................................................ 16
  The History of Foreign Language Learning ....................................................................16
    A Review of Foreign Language Education in the United States ...................................16
    The Evolution of Foreign Language Instruction .....................................................20
    Proficiency-Based Foreign Language Instruction ...................................................23
  Discussion of the Research on the History of Foreign Language Learning ....................25
  The Basic Tenets Underlying Second Language Acquisition ......................................26
    Theories of Language Acquisition .............................................................................27
      Language as a set of rules .........................................................................................28
      Krashen’s monitor model ..........................................................................................29
      Cognitive theory ......................................................................................................30
    The Functions of the Brain ...........................................................................................31
    The Role of Memory in Language Learning ..............................................................34
    Short-Term versus Long-Term Memory ......................................................................38
    Characteristics of Foreign Language Learners ........................................................40
The Use of Learning Strategies to Enhance Second Language Learning ............................................................. 43
Discussion of the Research on Second Language Acquisition ................................................................. 48
The Relationship Between Time and Learning in the Classroom ................................................. 50
The National Commission on Time and Learning ........................................................................ 51
Carroll’s “Model of School Learning” .............................................................................. 56
Quality Instructional Time ...................................................................................... 59
Year-Round Schools .................................................................................................. 62
Block Scheduling ....................................................................................................... 62
Discussion of the Research on Time and Learning ........................................................................ 63
The Role of Homework in Extending Classroom Learning .................................................. 65
What is Homework? .................................................................................................. 66
Amount of homework .......................................................................................... 66
Purpose of homework ......................................................................................... 68
Skill areas used in homework ........................................................................ 68
Homework completion .......................................................................................... 69
The Effectiveness of Homework .............................................................................. 69
How Does Homework Support Learning? ........................................................................ 73
Homework and Foreign Language Instruction ...................................................................... 74
Homework and Block Scheduling ........................................................................ 75
Discussion of the Research on Homework as an Extension of Classroom Learning ................. 76
Non-Instructional Time and Learning Loss ........................................................................... 78
The Effect of Summer Vacation on General Learning Loss ................................................ 79
Foreign Language Attrition ................................................................................... 83
Constructing Tests to Assess Language Retention .................................................................. 86
Discussion of the Research on Non-Instructional Time and Learning Loss .......................... 87
High School Scheduling Practices and Foreign Language Learning ......................................... 88
Benefits of Block Scheduling ...................................................................................... 90
Average daily attendance rate .................................................................................. 92
Students with improved grades or on the honor roll ...................................................... 93
Drop-out rate and graduation rate ........................................................................... 95
Discipline referrals .................................................................................................. 96
Reduced stress ......................................................................................................... 96
End-of-course test performance ................................................................................. 96
Block Scheduling and Foreign Language Classes ................................................................. 99
Advanced Placement Courses ...................................................................................... 110
Discussion of the Research on Block Scheduling and Its Impact on Foreign Language Instruction ...................................................................................... 111
Summary of Related Literature ..................................................................................... 113

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<table>
<thead>
<tr>
<th>Chapter 3: Methodology</th>
<th>119</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>119</td>
</tr>
<tr>
<td>Research Questions</td>
<td>120</td>
</tr>
<tr>
<td>Test Construction and Validation</td>
<td>121</td>
</tr>
<tr>
<td>Test Construction</td>
<td>121</td>
</tr>
<tr>
<td>Test Validation</td>
<td>121</td>
</tr>
<tr>
<td>Listening test</td>
<td>121</td>
</tr>
<tr>
<td>Reading test</td>
<td>122</td>
</tr>
<tr>
<td>Writing test</td>
<td>123</td>
</tr>
<tr>
<td>Speaking test</td>
<td>124</td>
</tr>
<tr>
<td>Field Testing</td>
<td>125</td>
</tr>
<tr>
<td>Listening and Reading Tests</td>
<td>126</td>
</tr>
<tr>
<td>Writing and Speaking Tests</td>
<td>127</td>
</tr>
<tr>
<td>Final Instrument Development</td>
<td>127</td>
</tr>
<tr>
<td>Test Reliability</td>
<td>128</td>
</tr>
<tr>
<td>Sample</td>
<td>128</td>
</tr>
<tr>
<td>Generalizability</td>
<td>130</td>
</tr>
<tr>
<td>Data Collection</td>
<td>130</td>
</tr>
<tr>
<td>Homework Questionnaire</td>
<td>130</td>
</tr>
<tr>
<td>Permission Forms</td>
<td>131</td>
</tr>
<tr>
<td>Stanford 9 Scores</td>
<td>131</td>
</tr>
<tr>
<td>End-of-Course Test</td>
<td>131</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 4: Analysis of Results</th>
<th>133</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methodology</td>
<td>134</td>
</tr>
<tr>
<td>Rate of Return</td>
<td>135</td>
</tr>
<tr>
<td>Listening and Reading Tests</td>
<td>135</td>
</tr>
<tr>
<td>Writing Test</td>
<td>136</td>
</tr>
<tr>
<td>Speaking Test</td>
<td>137</td>
</tr>
<tr>
<td>Time Spent in Instruction</td>
<td>138</td>
</tr>
<tr>
<td>Homework Outside of Class</td>
<td>142</td>
</tr>
<tr>
<td>Homework In Class</td>
<td>144</td>
</tr>
<tr>
<td>Listening Test</td>
<td>147</td>
</tr>
<tr>
<td>Reading Test</td>
<td>150</td>
</tr>
<tr>
<td>Writing Test</td>
<td>153</td>
</tr>
<tr>
<td>Speaking Test</td>
<td>156</td>
</tr>
<tr>
<td>Summary of Findings</td>
<td>159</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 5: Summary, Discussion, and Recommendations</th>
<th>162</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summary of Findings</td>
<td>163</td>
</tr>
<tr>
<td>Discussion of Findings</td>
<td>164</td>
</tr>
<tr>
<td>Time Available for Classroom Instruction</td>
<td>165</td>
</tr>
<tr>
<td>Expected Homework</td>
<td>166</td>
</tr>
</tbody>
</table>
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viii
## LIST OF TABLES

1. Subdivision of Skills Tested in the Field Test ........................................ 126
2. Subdivision of Skills Tested in the Final End-of-Course Test .................... 128
3. Return Rate for Listening and Reading Tests ........................................... 136
4. Return Rate for Writing Test Samples ................................................... 137
5. Return Rate for Speaking Samples ....................................................... 138
6. Descriptive Statistics for Number of Class Hours by Schedule Type .......... 139
7. One-way Analysis of Covariance of Annual Class Hours by Type of Schedule 139
8. Results of the Tukey-HSD test on Annual Class Hours by Schedule Type 141
9. Descriptive Statistics of Number of Hours of Expected Homework Outside of Class .......................................................... 142
10. Analysis of Variance of Number of Hours of Expected Outside Homework 143
11. Descriptive Statistics of Number of Hours of Homework Allowed In Class 145
12. Analysis of Variance of Number of Hours of Allowed In-Class Homework 146
13. Descriptive Statistics for the Listening Test Scores by Schedule Type ....... 148
14. Analysis of Covariance of Listening Scores by Schedule Type ................ 149
15. Descriptive Statistics for the Reading Test Scores by Schedule Type ....... 150
16. Analysis of Covariance of Reading Scores by Schedule Type ................. 152
17. Descriptive Statistics for the Writing Scores by Schedule Type .............. 154
18. Analysis of Covariance of Writing Scores by Schedule Type ................. 155
19. Descriptive Statistics for the Speaking Test Scores by Schedule Type ...... 157
20. Analysis of Covariance of Speaking Scores by Schedule Type ............... 158
21. Results of All French I Skill Tests by Scheduling Group (Raw Data) .......... 160
22. Hours of Expected Homework for all Groups (Raw Data) ......................... 161
E1. Results of the Panel of Experts' Validation of the Listening Test .............. 227
E2. Results of the Panel of Experts' Validation of the Reading Test .............. 230
E3. Results of the Panel of Experts' Validation of the Writing Test .............. 232
E4. Results of the Panel of Experts' Validation of the Speaking Test ........... 233
E5. Item Analysis From the Field Test of the Listening and Reading Sub-Tests ... 234
E6. Student Performance Scores and Question Selections From the Field Test of the Writing and Speaking Sub-tests .......................... 237
E7. The Evolution of the End-of-Course Test .............................................. 238
LIST OF FIGURES

1. As time goes on, recall of material being learned tends to get progressively worse unless the mind is given proper rest (Buzan, 1991) ................................. 35

2. Recall during learning - with and without breaks. A learning period of between 20-50 minutes produces the best relationship between understanding and recall (Buzan, 1991) ........................................ 36

3. Graph showing how human recall rises for a short while after learning, and then falls steeply (80% of detail forgotten within 24 hours) (Buzan, 1991) .................................................................................. 37

4. Model of School Learning (Carroll, 1963) ............................................................ 58

5. Mean Total Hours Available for Instruction Per Year by Schedule Type (Raw Data) ........................................................................................................................................ 140

6. Mean Number of Hours of Expected Annual Outside Homework by Schedule Type (Raw Data) ........................................................................................................................................ 144

7. Mean Number of Hours of Allowed Annual In-Class Homework by Schedule Type (Raw Data) ........................................................................................................................................ 147

8. Mean Listening Scores by Schedule Type (Raw Data) ........................................ 149

9. Mean Reading Scores by Schedule Type (Raw Data) ......................................... 151

10. Mean Writing Scores by Schedule Type (Raw Data) ......................................... 155

11. Mean Speaking Scores by Schedule Type (Raw Data) ....................................... 158

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THE IMPACT OF ALTERNATIVE SCHEDULING PRACTICES ON STUDENT PERFORMANCE IN FRENCH I

ABSTRACT

The purpose of this study was to assess the impact that alternative scheduling practices have on performance by French I students at the high school level in listening, speaking, reading, and writing. A part of this study also focused on whether or not the amount of homework teachers assigned varied according to the schedule used.

The researcher constructed and validated a proficiency-based end-of-course French I test based on the Virginia Standards of Learning for French I (1988) to assess skills in listening, speaking, reading, and writing. The test was administered to students in 60 Virginia French I classes operating on one of three different schedules: a 4x4 semester schedule, an alternating day schedule, and a daily schedule. In addition to measuring student performance in the four skill areas, data were collected about both the length of time available for classroom instruction on each schedule and the amount of homework teachers on the various schedules expected their students to do.

The results of an analysis of variance (ANOVA) revealed that there was a significant difference ($p < .05$) in the amount of time available for learning among the three scheduling groups. Classes on the traditional daily schedule had significantly more time available for instruction than did those on the 4x4 semester schedule and the alternating day schedule. The results of an analysis of variance (ANOVA) revealed that there was no significant difference ($p < .05$) in the hours of homework, either out of class or in class, expected by teachers using the different schedules.
Using the Total Reading Scaled Scores and the Language Scaled Scores from the Stanford Test of Achievement, Ninth Edition as covariates, an analysis of covariance (ANCOVA) was used to analyze the scores from the listening, speaking, reading, and writing tests. The results of the four ANCOVA's indicated that there was no significant difference (p < .05) in the level of performance on any of the skills among any of the scheduling groups.

An additional research question emerged during the study — whether the use of mean scores to conduct the analyses described above was disguising a pattern of score distribution that might indicate that certain schedules were beneficial to strong students and detrimental to weak students. A chi-square test was used to determine if individual scores of the students in each of the treatment groups met expected representation in each quartile of the score distribution. The analysis showed that students instructed on the 4x4 schedule were over-represented in the bottom quartile and were observed as expected in the top quartile on the listening and reading tests. The scores of students instructed on the alternating day and daily schedules were observed as expected in the bottom quartile, but were over-represented in the top quartile. There were no unexpected distributions of the speaking and writing scores.

LINDA MOODY WALLINGER
PROGRAM IN EDUCATIONAL POLICY, PLANNING, AND LEADERSHIP
THE COLLEGE OF WILLIAM AND MARY IN VIRGINIA

xiii
THE IMPACT OF ALTERNATIVE SCHEDULING PRACTICES
ON STUDENT PERFORMANCE IN FRENCH I
Chapter 1: The Problem

Introduction

With the documented decline of student performance in the United States during the last two decades (Berliner, 1993; Berliner & Biddle, 1997; Blaine, 1994; Bracey, 1992, 1993; Carson, Huelskamp, & Woodall, 1993; Freeman, 1995; Koretz, 1992; Stedman, 1994; Stevenson, 1994;), members of the American academic community have increasingly sought ways to improve the educational system. Educators have examined both new and recycled instructional and restructuring techniques. Often they have focused on variables which they believed could be controlled to improve student achievement (Walberg, 1984; Wang, Haertel, & Walberg, 1993).

One of these variables — time spent on learning — has generated considerable interest. Substantial research has been devoted to examining the impact that restructuring the school day would have on learning. Proponents of this improvement strategy felt that increased learning would occur only when the current measure of mastery — the Carnegie unit — was replaced with more reliable ways to ensure that students had learned sufficient material. The Carnegie unit system of granting high school credits equated mastery of a subject to seat-time in class but did not guarantee that students had actually learned the essentials of the course (Carroll, J.M., 1994a; Edwards, 1995; Kruse & Kruse, 1995; Schoenstein, 1995; Schroth & Dixon, 1995; Scroggins & Karr-Kidwell, 1995). To proponents of restructured time, learning in America had become "a prisoner of time" (National Education Commission, 1994, p. 7), and they proposed replacing the Carnegie
unit system with a schedule that permitted learning to occur in longer time blocks where students did not meet all classes each day.

Over 130 studies supported the idea that the more time students spent on studying and engaged learning, other things being equal, the more they would learn (Smyth, 1985; Walberg, 1995). Researchers pointed out that teacher behavior, as such, did not impact student achievement directly. Rather, it was how teachers used their time with students, i.e. actively engaging them in learning, that influenced student learning (Smyth, 1985).

As a result of these studies on time and learning, a movement to restructure the school day began to emerge. The basic concern of restructuring proponents was that the traditional 6- or 7-period school day was too fragmented and that students never really had time to explore concepts in depth during a 45 to 50 minute class. Supporters of a restructured school day felt that if the school day were reorganized into fewer but longer class periods, students and teachers would have time to investigate topics and concepts to a greater understanding and would also save “non-value-added” time by having fewer class changes, class starts, and class endings. As such, many high schools in the United States have adopted some form of the block schedule and have reported varying degrees of success (Shortt & Thayer, 1997). Because the concept is relatively new (in spite of a brief trial period during the 1970's), there has been insufficient time for long-term statistical data to be collected on its impact on student achievement. The limited statistical research that does exist has been done primarily in core subject areas with very little data available on the impact of the block schedule on electives, especially foreign languages (Wallinger, 1996).
Statement of the Problem

Based on the research surrounding time and learning, educators are interested in restructuring the school day to allow longer periods of time to permit teaching strategies and activities that promote depth of coverage rather than breadth (de Lopez, 1996; Schoenstein, 1995). Previous studies have documented advantages and disadvantages, both actual and perceived, of this flexible use of time. However, most studies have been directed toward the school as a whole or have focused on the core courses in English, science, mathematics, and social studies (Hurley, 1997a, 1997b; Pisapia, 1997a, 1997b, 1997c). The impact of various scheduling practices on electives, in particular sequential electives such as foreign languages, has not been addressed by thorough research studies (Wallinger, 1996).

The purpose of this study was to assess the impact that alternative scheduling practices have on performance by French I students at the high school level in listening, speaking, reading, and writing. A part of this study also focused on whether or not the amount of homework teachers assigned varied according to the schedule used.

Research Questions

The following were the research questions for this study:

1. Does the time allocated for learning in French I vary according to the schedule on which students are instructed?

2. Does French I student performance vary according to the schedule on which students are instructed (4x4, alternating day, or daily schedule) as measured by scores on end-of-course tests in speaking, writing, listening, and reading?
3. Does the quantity of homework that teachers assign to their French I students vary according to the schedule used (4x4, alternating day, or daily schedule) as described in a self-report instrument from teachers?

**Significance of the Study**

While block scheduling appears to have many advantages to the overall school program, there is an undocumented perception that there may also be some weaknesses. The concerns expressed by teachers of sequential courses such as foreign languages are well-documented in anecdotes and personal experiences, but there are few statistical studies to support or refute these claims (de Lopez, 1996; North Carolina Department of Public Instruction, 1996b). Based on the lack of research about the impact of block scheduling on student performance in foreign language learning, there appears to be a significant need to further this research.

In addition to examining the strengths and weaknesses of block scheduling, the literature review for this study explored the issue of time and learning, whether or not homework is an extension of learning that occurs in school, the way that students learn foreign languages, the key beliefs and practices in foreign language education today, and the elements that contribute to learning loss and foreign language attrition.

There are admitted gaps of instruction on both forms of the block schedule. On the alternating day schedule, there is a lapse of at least 48 hours between class meetings, and a 3-day lapse over the weekend. On the 4 x 4 schedule, there is often a hiatus of at least a year between levels of language study unless these have been accounted for in the scheduling process.
Even if students are able to pursue their language study in consecutive semesters on the 4 x 4 schedule, their language study might be compressed into the first two years of high school, leaving little or no exposure to foreign languages during their junior and senior years. This can be counterproductive if students must resume their language study in college. This problem of timing also creates problems in sitting for foreign language Advanced Placement exams which generally occur during the first two weeks of May. In the case of a class taught during the second semester on a 4 x 4 schedule, over 20% of the material has yet to be taught.

The issue of learning foreign languages on a block schedule is complex. In order to gain a thorough understanding of the issue, researchers must weave together what is known about foreign language learning, time and learning, learning attrition, and learning extension activities. The review of related literature in Chapter 2 of this study reveals that relevant research has been done on each of these separate topics, but very little research exists on how these topics are interrelated.

The research on time and learning suggests that if teachers use effective strategies, additional instructional time is of great benefit to learning (Berliner & Fisher, 1985; Bloom, 1968; Carroll, 1963; Harnischfeger & Wiley, 1984; National Commission on Time and Learning, 1994; Smyth, 1984). The research on foreign language learning indicates that language skills are acquired by appealing to a wide variety of thought processes, senses, and activities, and that language skills must be rehearsed if they are to be recalled at a later time (Buzan, 1991; Gardner, 1983, 1993; Met & Galloway, 1992; Mikkonen & Service, 1985; Munsell, Rauen, & Kinjo, 1988; Olliphant, 1990; Oxford, Lavine, &
Crookall, 1989; Prawat, 1989). The studies on non-instructional intervals and learning loss tell us that periods of non-instruction lead to greater learning loss (Bahrick, 1984; Cooper, Nye, Charlton, Lindsay, & Greathouse, 1996; De Bot & Weltens, 1995). The research on homework tells us that the effectiveness of homework is a very individual matter and is tied to the age, ability, motivation, and course load of the student (Cool & Keith, 1991; Cooper, 1994).

Students who function on a block schedule do have a longer class period to rehearse their language skills and experience a variety of instructional strategies. But in some cases, there is an interval between periods of language learning, and in others, learning is compressed into a very short period of time. In essence, on an alternating day block schedule, every day is a Monday, and near the end of the week, there will be a three-day break in instruction rather than the typical two-day weekend. It is unclear whether homework is a critical factor in learning on the various schedules. Also, the 4 x 4 schedule raises an additional question that is not of interest to this particular study but does have implications for foreign language study — the issue of the possibility of long non-instructional intervals between levels of foreign language study.

There are also questions of total time on task and of depth versus breadth of study. Proponents of block scheduling recognize that on a 4 x 4 schedule and on some alternating day block schedules, the total number of hours that a student spends in each class period does not equal that found in classes conducted on a 6- or 7-period day. They feel that teachers and students compensate for this lost time, however, by time savings found in fewer class changes and less daily time spent in tasks such as changing classes, calling the
roll or opening and closing the class (Canady & Rettig, 1995; Shortt, 1995). They also feel
that what students do learn is truly mastered, and that in the long run it will produce greater
knowledge (Schoenstein, 1995). Thus, there is an acknowledged coverage of less material
on many 4 x 4 schedules. If coverage of material is an issue, homework may be used as one
means of recovering some of this lost time (Canady & Rettig, 1995; Schoenstein, 1995;
Shortt, 1995).

A final concern is over the compressed time period in which students must learn on
a 4 x 4 schedule. Teachers seem just as reluctant to assign the double homework that
would naturally occur in such a system as the students seem reluctant to do it. In the case
of beginning language learning where memorization accounts for a large part of vocabulary
development, a question arises about whether students really have sufficient time to
assimilate, practice, and reflect on what they are learning (Buzan, 1991; de Lopez, 1996).
This time for making connections and reflecting on what has been learned seems to be a
critical component for long-term learning to occur (Prawat, 1989).

Based on the research on the review of literature, the researcher has uncovered
reasons to both support and challenge the use of block scheduling as an effective use of
time for foreign language instruction. They are summarized below.

**Perceived Advantages of Block Scheduling for Foreign Language Classes**

The following factors were perceived to be advantages of block scheduling:

1. The block schedule should provide additional time to rehearse and reinforce all
language skills: speaking, listening, reading, and writing. This is especially
important because most students do not have the opportunity to practice these skills
beyond the classroom. Since there has been time to emphasize all 4 skills in class, homework assignments should be able to integrate all of these skills.

2. The block schedule should afford foreign language teachers the time to use a wide variety of teaching strategies including group work and cooperative learning which have been demonstrated to foster language growth. This variety should extend into homework assignments.

3. The block schedule should provide foreign language teachers the time to use technology which assists with personalized instruction and international communication.

**Perceived Disadvantages of Block Scheduling for Foreign Language Classes**

The following factors were perceived to be disadvantages of block scheduling:

1. In some block schedules, students do not receive as many instructional hours as do students who attend school on a traditional schedule, thus homework may be essential in covering all of the required material. Many foreign language teachers feel that it is very difficult, if not impossible, to cover the same amount of material on a block schedule as it is on a schedule where classes meet daily.

2. In some block schedules, the time allotted for learning is compressed into a short period which requires mastery of a large amount of information in a relatively short amount of time. In these cases, it may be impossible to use homework effectively as a practice for all that was covered in a class period.

3. In some block schedules, there are increased periods of non-instruction during which learning loss could occur. On an alternating day (A-B) schedule or a 4 x 4
semester schedule, teachers seem reluctant to assign an increased amount of homework that might be generated by a longer class period that meets less frequently, and students seem to be reluctant to complete longer assignments if they are made.

With the advantages and disadvantages cited above in consideration, this study has examined whether or not reorganization of instructional time afforded French I students greater learning opportunities. It is significant because at this writing it is only one of two known studies that have used quantitative measures to assess the performance of foreign language students who were taught under various scheduling formats. The researcher explored various aspects of second language acquisition, time and learning, learning attrition, and homework to determine how they were intertwined in the learning process.

**Theoretical Rationale**

Applying the concepts of time and learning to the idea of second language acquisition would seem to indicate that if students had more time to practice and assimilate the foreign language, they would develop better skills at a faster rate (Barry & Kelley, 1997; Boarman and Kirkpatrick, 1995; Buckman, King, & Ryan, 1993; Canady & Rettig, 1995; Carroll, J. M., 1994a, 1994b; Edwards, 1995; Eineder & Bishop, 1997; Fairfax County (VA) Public Schools, 1997; Guskey & Kifer, 1995; Hurley, 1997a, 1997b; Irmsher, 1996; Kramer, 1997a; North Carolina Department of Public Instruction, 1996b; Pisapia, 1997a, 1997b, 1997c; Pisapia & Westfall, 1997a, 1997b, 1997c; Reid, 1996; Reid, Hierck, & Veregin, 1994; Rettig & Canady, 1996; Schoenstein, 1995; Shortt, 1997; Shortt & Thayer, 1995; Spencer & Lowe, 1994).
In most alternative schedules, the school day has been restructured so that the class periods are longer but do not meet for as many days. This did produce more time for learning at each class meeting but often resulted in less total time for instruction over the course of the year (Fairfax County, 1997; North Carolina Department of Public Instruction, 1996a, 1996b; Shortt, 1997; Shortt & Thayer, 1995, 1997).

The research on memory indicated that shorter periods of learning might be more conducive to language learning, especially in the beginning levels of language instruction where students relied heavily on memory (Bower, 1987; Buzan, 1991; Carroll, 1964; Dixon, 1992; Mikkonen & Service, 1985; Nyikos, 1985; Schleppegrell & Oxford, 1988; Service, 1987). However, proponents of the longer blocks of instructional time emphasized the importance of implementing a variety of teaching strategies and activities which, if used properly, would effectively break the longer class period into smaller learning segments (Fairfax County, 1997; North Carolina Department of Public Instruction, 1996a, 1996b; Shortt, 1997; Shortt & Thayer, 1995, 1997).

Studies on language attrition and retention indicated that a long non-instructional interval could be detrimental to language retention (Bahrick, 1984; DeBot & Weltens, 1995). Certain block schedules present exactly this situation where instruction does not occur on a daily basis (alternating day schedule) or where there are large gaps between levels of language instruction (4 x 4 block schedule).

Some attempt has been made to use homework as an extension of learning that occurred in the classroom and as a way to limit such learning loss, but its success in improving student performance and achievement has not been soundly proven by research.
(Cool & Keith, 1991; Cooper, 1994; Copple et al., 1992; Foyle & Bailey, 1988; Keith, 1982; Palardy, 1995; Thomas, 1992). Further significance was given to the kind of homework assignments that students did. There was support that skill-based learning benefited from assignments that allowed students to practice skills until they became good habits (Cooper, 1989, 1994; Copple et al., 1992; Earle, 1992; Thomas, 1992).

Other unresolved homework issues included the completion of homework (Kelley & Kahle, 1995; Levine & Anesko, 1987) and the use of class time for homework (Fairfax County, 1997). Because so much of the research on homework has relied on self-reports from students and teachers, it was not clear how much homework students actually completed (Kelly & Kahle, 1995; Levine & Anesko, 1987). Further complicating the problem was whether or not homework was really done at home or whether teachers gave time in class for students to do homework, thus decreasing the actual instructional time.

There was some indication that teachers on the longer block periods did give students more time proportionately to work on homework in class because the class periods were too long for meaningful instruction to continue (Fairfax County, 1997; Wisconsin Association, 1995).

Some research on second-language acquisition supported the concept that large quantities of comprehensible input in the language would lead to improved language learning (Krashen, 1982, 1982). This input could and should come from many sources and reinforce all the senses (Lado, 1969; Munsel et al., 1988; Olliphant, 1990). With this in mind, students on a block schedule may have more time in class to hear and use the
language, because teachers have time within each class period to provide a variety of language learning experiences.

All of the scheduling formats seem to have both positive and negative features. On the daily schedule, students have daily contact with the foreign language. However, the short instructional periods of only 45 to 50 minutes often create lessons that are fragmented and do not always allow teachers to use a wide variety of teaching strategies that would appeal to all learners.

The 4 x 4 schedule provides longer class periods, but it also requires memory and learning to occur in a very compressed period of time. This means that there would possibly be less time for reinforcement through reflectivity, homework practice, and other outside activities. Another problem arises with the scheduling of further language study. Often students are forced to incur large gaps in their language study from level to level. Advanced Placement tests and other nationally administered tests also present problems. Traditionally these tests are given near the beginning of May, when approximately 20% of the course content would not yet have been taught on the 4 x 4 schedule (Shortt & Thayer, 1997).

The alternating day block schedule also provides the longer blocks of instructional time, but it also creates more opportunity for learning loss to occur because of the on-again, off-again nature of the schedule. With both block schedules, the total number of hours of instruction is often less than that found in classes conducted on a daily basis. Proponents of the block schedules feel, however, that teachers and students compensate for this loss with fewer class changes and less time spent in opening and closing the class each day.
The block schedule would seem to provide additional instructional opportunities but raises issues in other areas, notably in learning retention and in defying what we know about how the memory processes information for long-term retention. The primary question to be answered in this study, then, is how the three schedules being examined—the 6/7-period day, the alternating day block, and the 4 x 4 block—will impact performance among beginning French students.

**Operational Definitions**

**Alternating day block schedule** - A schedule where students take three or four longer classes on one day (Day A), and on the alternating day (Day B), they take three or four different classes. The classes generally last approximately 90 minutes. This schedule continues throughout the school year.

**Block scheduling** - A form of alternative scheduling where students generally attend fewer but longer classes each day. Each class lasts approximately 90 minutes rather than the traditional 45 or 50 minutes. Students compensate for fewer daily classes by taking more classes over the course of a year. This can be accomplished with either an alternating day block schedule or a 4 x 4 schedule.

**Four by Four (4 x 4) schedule** - A schedule where students take the same four 90-minute classes daily and complete each course in only one semester. At the beginning of the new semester, they enroll in four new courses.

**Six or seven (6- or 7-) period day** - A schedule where each class meets every day for 45 to 55 minutes. This has been the traditional schedule used in most American high schools for the last few decades (Canady, 1994; Canady & Rettig, 1995; Carroll, J.M., 1994a,

Limitations of the Study

The following limitations were recognized:

1. The results of this study may be generalizable only to ninth grade students in French I because only those students had the requisite Stanford 9 scores that were used to establish pre-existing differences among groups.

2. This study did not control for differences among teachers, teaching strategies, or locations.

3. There was some variation in the length of the class periods, even within each scheduling format. In other words, traditional class periods varied in length depending on the length of a school’s day and whether they ran a 6- or 7-period schedule. The same held true for an alternating day block and a 4 x 4 block. The class periods varied in length depending on the length of the school day and how many periods schools factored into their schedules.

4. Validity and reliability were potential problems because the measurement instrument used was a new instrument designed and field tested by the researcher.

5. Due to the diversity of teaching materials that were in use among French I classes in Virginia, the end-of-course test was a test of proficiency rather than a test of achievement. The only common source of content was the corpus of grammar that was outlined in the Standards of Learning for French I in Virginia. Thus the end-of-
course test could not test true achievement on any given content since the content varied by choice of materials.

6. Although French I classes in all high schools in Virginia were given the opportunity to be a part of this study, the classes that actually participated were volunteered by their teachers, thus the sample was not selected randomly.

7. The students who participated in this study were those who returned both student consent forms and parental permission forms. Thus the sample was not drawn from all available students.
Chapter 2: Review of Related Literature

**Introduction**

This literature review has examined six basic questions that are important to this study:

1. What is the history of foreign language learning?
2. What are the basic tenets underlying second language acquisition?
3. What is the relationship between time and learning in the classroom?
4. What role does homework play in extending classroom learning?
5. How do intervals of non-instruction (during vacations or in other situations such as those created by some block schedules) affect learning loss?
6. How are high school scheduling practices (restructuring) related to the key issues of foreign language learning, time and learning, learning loss, and homework as an extension of classroom learning?

**The History of Foreign Language Learning**

*A Review of Foreign Language Education in the United States*

In order to understand what constitutes foreign language learning in the 1990's, we must take a brief look at what it has been in the past and how it has evolved. Foreign languages have played a role in American education since its beginning. Students studied the classical languages as a form of “mental discipline” and as a way to read the literature of the past. Children of elite families also studied foreign languages as part of a “gentleman’s education”, and French, in particular, was considered to be a necessity for...
travel and diplomacy (Met & Galloway, 1992). Benjamin Franklin and Thomas Jefferson are two of the best known Francophiles of their era.

Foreign language study in the United States continued more or less in this manner into the early twentieth century. The choice of which languages to offer in schools was often a regional decision, and the interest in foreign language study waxed and waned depending on economic conditions, interest in education in general, and the role that the United States was playing in world history at the time.

In reaction to post-World War I sentiments and a flood of immigrants during the early 1920's, several states enacted laws that forbade the in-school teaching of any subject in a foreign language or of any modern foreign language to children who had not yet completed the eighth grade. In Meyer v. Nebraska in 1923, the U.S. Supreme Court ruled that such a state law was unconstitutional: “The protection of the Constitution extends to all, to those who speak other languages as well as to those born with English on the tongue” (Hudgins & Vacca, 1991).

Active promotion of foreign language instruction in the U.S. began during the 1950's as a reaction to the launching of Sputnik. Americans recognized that Russian students had somehow surpassed their own children in their knowledge of mathematics, science, and foreign languages. During this time, enrollment in the classical languages declined as students rushed to learn to listen, speak, read, and write in other modern languages (Met & Galloway, 1992).

During the 1960's and 1970's, the feeling of urgency passed. American interest in foreign language learning began to subside, and many colleges and universities dropped
their foreign language entrance or exit requirements. Foreign language education suffered a period of decline with many teachers and programs struggling to exist amidst the many new courses that were being introduced into the American curriculum.

In 1979, the President’s Commission on Foreign Languages and International Studies refocused attention on the need for language competency in America with the report *Strength Through Wisdom: A Critique of U.S. Capability*. It noted the serious communication disadvantages in politics, diplomacy, and economics that were created by Americans’ lack of ability to communicate in a foreign language.

This report had strong implications for curriculum developers in foreign language learning. Foreign language educators realized that the curriculum needed to be modified to include not only reading and writing, but also speaking and listening skills that had not been previously emphasized in American foreign language classes (Met & Galloway, 1992).

A number of other reports on the state of education in America appeared during the next five years. Many of these reports called for expanded and improved foreign language instruction in the schools. The report of the National Commission on Excellence in Education (1983) felt that the study of a foreign language “introduce[d] students to non-English speaking cultures, heighten[ed] awareness and comprehension of one’s native tongue, and serve[d] the Nation’s needs in commerce, diplomacy, defense and education” (p. 21). In the report *Making the Grade* (Peterson, 1983), the Task Force of the Twentieth Century Fund stated that “every American public school student should have the opportunity to acquire proficiency in a second language” (p. 12). The Carnegie
Foundation for the Advancement of Teaching stated that “all students should not only ‘learn about’ a foreign language, but be proficient in its use” (Boyer, 1983, p. 100).

In the 1980's, “economic competitiveness became a force that molded educational advances and reforms. A renewed emphasis on foreign language competence stemmed directly from concerns about our nation’s ability to compete in a global economy” (Met & Galloway, 1992, p. 852). Foreign languages played a vital role in this move toward competitiveness.

In the 1990's, economic competitiveness in international markets has remained a prime factor in the popularity of foreign language study in the United States. Americans have found that reliance on interpreters and translators is not always profitable or desirable in world negotiations. Additionally, Americans have been impeded by their insular view of other cultures and countries.

Today, cultural diversity within the United States often affects the languages that students learn and the curriculum that is used. Enrollments have steadily increased in Spanish, and curricular changes reflect real-life applications. Students pursue a longer sequence of language study, although this sequence is still not so long as that found in some other countries (Met & Galloway, 1992).

Draper (1989) reported that 16 states have instituted some form of secondary school foreign language requirement. Virginia was among the first states to impose foreign language requirements for an advanced diploma, and those requirements were recently reinforced by the Regulations Establishing Standards for Accrediting Public Schools in Virginia (Virginia Department of Education, 1997). Postsecondary institutions are
increasing their foreign language entry and/or exit requirements, and there has been explosive growth in the study of foreign languages at the elementary school level (Met & Galloway, 1992).

Most American foreign language study continues to occur in the secondary schools. A survey conducted by the Center for Applied Linguistics (Rhodes & Oxford, 1988) revealed that a foreign language was offered by 95% of American high schools and by 72% of American junior high/middle schools. Twenty percent of private secondary schools and 10% of public secondary schools offered honors, accelerated, or advanced placement foreign language courses.

The Evolution of Foreign Language Instruction

Foreign language learning has generally been defined from two points of view: (a) grammatical competence and (b) communicative competence. Within each of these viewpoints, there has remained a wide range and variety of ideas (Met & Galloway, 1992).

During the first half of this century, foreign language instruction was dominated by memorization of grammar rules such as verb conjugations, vocabulary lists, sentence diagramming, and verbatim translations. “Language learning was viewed as an accumulation of expertise in grammatical analysis” (Met & Galloway, 1992, p. 860). Since the primary interest was to develop an ability to read in the language, there was no need to present the language in a real-life context.

The decades of the 1950's, 1960's, and 1970's opened a new door in foreign language education. The foreign language curriculum began to focus on the ability to actually use the language. Among the approaches that arose from this concept was the
well-known audio-lingual method. It consisted of complex pattern drills, repetitions, and
dialog memorization. Teachers hoped that students would be able to transfer these
memorized patterns and dialogs into patterns and dialogs for self-expression. Yet students
were still bound by the rules of the language. While they no longer recited rules about the
language, they still "behaved" grammatically (Met & Galloway, 1992). Studies did not
prove the audio-lingual method to be superior to the old grammar-translation method
(Long, 1983), but teachers did carry with them the understanding that students should have
practice in using the grammar of the language rather than just reciting rules. This helped to
install the understanding that grammar had function.

Foreign language educators also began to comprehend that grammar was only one
facet of language. They became aware that a native speaker of a language possessed
communicative competence (Met & Galloway, 1992). Savignon’s (1973) study defined
communicative competence as “the ability to function in a truly communicative setting —
that is, in a dynamic exchange in which linguistic competence must adapt itself to the total
informational input, both linguistic and paralinguistic, of one or more interlocutors” (p. 8).
Now language learning included not only rules, but also context, meaning, function, and
interaction. Students were encouraged to take risks with the language, create with the
language, and use the language for personal expression.

The concept of communicative competence took a global view toward assessment.
Evaluation of student’s work was based on the overall quality of the communication and
not on correcting discrete grammar errors. This idea of global grading generated brisk
debate among foreign language educators who had received training characterized by
avoidance of errors at all costs. However, this new view of language learning also reflected the more natural process that occurred in first language acquisition among children where making mistakes was a natural occurrence. The concept of communicative competence laid a natural groundwork for the further development of degrees of competence. These degrees or levels of competence would serve as the basis for eventual foreign language proficiency guidelines (Met & Galloway, 1992).

In 1979 the report of the Commission on Foreign Language and International Studies challenged foreign language educators to develop and adopt nationally recognized performance or proficiency standards to help improve the quality of foreign language instruction and learning in the United States. Using the concepts established with communicative competence, in 1986 the American Council on the Teaching of Foreign Languages published its Proficiency Guidelines in the form of a scale with nine or ten (depending on the skill) levels of “proficiency” ranging from Novice-Low to Superior or Distinguished. For each level, they provided examples of the tasks or functions that students should be able to perform, the content of the language they should be able to use, the contexts in which they should be able to use the language, and the accuracy with which they should be able to use the language. Widely embraced by the world of foreign language education, these guidelines provided “for the first time, a curriculum free progression to the notion of communicative ability that . . . allowed for more discriminating measurement of an individual’s global ability to use . . . the language, not in relation to classroom peers, but, rather, on the basis of what were deemed to be more real-life criteria” (Met & Galloway, 1992, p. 862).
Further work by the National Standards in Foreign Language Education Project (1996) resulted in the creation of national standards for foreign language learning. In contrast to the proficiency guidelines which provided a common yardstick with which to assess foreign language performance, the national standards organized foreign language learning into the content areas of communication, cultures, connections, comparisons, and communities. The project recognized that the skill areas of listening, speaking, reading, and writing were useless communication tools in isolation. They needed to be integrated into standards that forced “attention to the broader view of second language study and competence: what should students know and be able to do — and how well?” (National Standards, 1996, p. 15). The project also recognized that “no single continuum of language learning exist[ed] for all students. Rather, the progress and performance levels of individual learners at any given time depend[ed] on a number of factors, including motivation, learning styles and preferences, age, and language learning experiences, which include[d] the languages the learner [spoke] and the one being learned” (National Standards, 1996, p. 14). As a result of the national standards, individual states and school districts have been moving to re-align their foreign language curricula to determine performance standards for their students that reflect this re-organization of foreign language learning.

Proficiency-Based Foreign Language Instruction

Today’s goals for foreign language programs have not changed much since the 1950’s. They generally included statements such as “Students should be able to understand, speak, read, and write the foreign language and should develop knowledge of
and appreciation for the culture of those who speak the language” (Met & Galloway, 1992, p. 872). However, the definition of what it means to “know” a language has been evolving. Today’s “proficiency-based programs help students develop language skills that allow them to communicate their own thoughts and feelings in situations they are most likely to encounter. The emphasis is on what students can do with the language, as opposed to what they know about language. Classroom learning experiences should require meaningful use of the language, involve purposeful communication, and connect the learner to authentic language as used in real-life situations. These experiences are intended to develop students’ language proficiency” (Met & Galloway, 1992, p. 872).

A proficiency-based foreign language curriculum was recursive rather than linear and hierarchical. It presumed that students acquired some degree of proficiency at each level and that they were increasingly enabled to perform in the language. Such a curriculum included the following features (Met & Galloway, 1992):

1. Language functions such as requesting and giving information, expressing feelings, persuasion, and socialization. In other words, what were the students able to do with the language?

2. Contexts and contents which included the situations such as travel, shopping, and dining or topics such as food, clothing, and family about which we communicate. Under what circumstances did students use the language?

3. Accuracy which addressed the ability to control the syntax and morphology of the language and to interpret communication from others. In other words, with what degree of accuracy could they perform?
Proficiency-based instruction was characterized by the following elements (Met & Galloway, 1992):

1. Extensive use of the foreign language.
2. Use of drill and practice, with special emphasis on the role of listening skills.
3. Application activities that required students to perform in the foreign language rather than to provide mechanical responses and one-word answers.
4. Error correction in a non-threatening environment that did not interfere with the student’s efforts to communicate.
5. Specific skill development in the areas of listening, speaking, reading, writing, and culture.

In order to achieve proficiency-based instruction, teachers must create increased time for students to practice their skills by using small-group and pair work. Educators should also take advantage of the educational technology that is available, including: (a) language laboratories that increase students’ opportunities to engage in listening; (b) computer-assisted language learning (CALL) which uses the computer as a medium to supplement teacher-delivered instruction; (c) video sources such as video tapes, international satellite transmissions, interactive video, and distance learning, and (d) the Internet which provides an expansive source of international information and opportunities to communicate with people from other countries and cultures.

**Discussion of the Research on the History of Foreign Language Learning**

While foreign language learning and instruction have evolved over the years, other factors have continued to influence foreign language education in America. The long term
effects of the proficiency movement, the impact of the diversification of the American population, the expanding use of technology, and the effects of high school restructuring were all issues that will continue to be examined as time progresses (Met & Galloway, 1992).

Of particular interest related to the issue of time and learning was how actual language learning occurred. Did the process evolve naturally regardless of the artificial constraints placed upon it by our school organization? Were there certain circumstances that promoted or interfered with second language acquisition? Did a shorter but more frequent class period lead to fragmented learning? Did longer but less frequent class periods create a situation where students were required to process too much information too quickly? A look at how second languages are acquired will help to answer some of these questions.

The Basic Tenets Underlying Second Language Acquisition

Achieving fluency in a foreign language depends on many factors. There are “easier” and “more difficult” languages for an English speaker. There are languages in which it is much easier to master speaking and listening skills than reading and writing skills and vice versa. There are also different types of learners. Some want to be perfect, want to rely on familiar rules and structures, and do not want to use the language unless they are confident about how they are going to perform. Others are afraid to appear ridiculous and slow down their learning by denying themselves
opportunities to practice. Still others are impatient, want to learn everything
at once, and get discouraged by lack of immediate results. Some learners are
rule-oriented, while others rely on intuition. Some are shy, while others are
sociable. Some have been exposed to foreign language before, while for
others it is the first foreign language experience. It is not possible to predict
how much time achieving fluency will take since it is a very individual
process. (Schleppegrell & Oxford, 1988, p. 4)

This variety that was found among language learners was exactly what made
teaching languages so interesting and diverse and yet so challenging. Language production
was generally a means to an end — communication — not the end itself. Yet fluent
communication was dependent on facility in many skills, including listening, speaking,
reading, and writing all placed in the appropriate social and cultural contexts.

The proficiency guidelines and content standards established for use in foreign
language classrooms across America during the 1980's and 90's made suggestions about
what should be taught and to what degree students should be able to perform; however,
these guidelines and standards still did not answer the question of how students learned
languages, what was involved in language use, or how to best teach languages.

Theories of Language Acquisition

No one theory totally explained the process of foreign language proficiency
development to the satisfaction of linguists, psychologists, and foreign language
practitioners. Several popular theories will be presented here.
Language as a set of rules. Some language theorists viewed language acquisition as a process of rules (Met & Galloway, 1992). These rules could be divided into four categories:

1. **Textbook Grammar Rules**

   These were the traditional rules for grammatical structures such as rules for adjective agreement, pluralization, word placement, verb usage, etc. Usually these rules were taught in contrast to English. This process assumed that students had a certain understanding of English grammar which was not always true.

   The way these rules were presented in foreign language textbooks has changed as a result of the communicative competence movement. In addition to stressing the formation and usage of language structure, textbooks also demonstrated real-life uses of the particular structures.

2. **Discourse Rules**

   These rules governed “one’s ability as a speaker, reader, listener, and writer to relate and link ideas at a meaningful level and to display coherence, continuity, and consistency of thought” (Met & Galloway, 1992, p. 864) in a second language. They involved stretching students beyond the sentence drill level and one-word response to the use of language to describe, explain, contrast, disagree, and evaluate.

3. **Pragmatic Rules**

   Pragmatic rules governed what was said, when it was said, and how it was said. These depended on the topic, cultural conventions and connotations, social contexts, relationships, roles, ages, and backgrounds of participants.
4. **Strategic Rules**

Strategic rules helped an individual survive when the linguistic skill level that was needed for a particular task outweighed his or her linguistic ability. These included such strategies as circumlocution, paraphrasing, approximating, clarifying, and self-correcting. Some language learners viewed language acquisition as a process of rules (Met & Galloway, 1992).

**Krashen's monitor model.** Krashen's (1981, 1982) model attempted to explain language acquisition by using five central tenets:

1. There were two very distinct ways of developing second language competence: (a) learning and (b) acquisition.

   Learning was the conscious process of acquiring formal rules and feedback that results in knowing *about* the language. Acquisition was the subconscious process that occurred from focusing on meaning during interaction similar to how children acquired their first language.

   Krashen asserted that learners focused on form and rules while acquirers focused on developing a “feel” for the language. Furthermore, he believed that one kind of language development did not necessarily foster the other. In other words, “learners” did not become “acquirers” and vice versa.

2. Formal language learning served only as a “monitor” to edit language production as it was occurring and ultimately affected the fluency of the speaker. Individuals used their language “monitors” in different ways. Overusers were so fearful of making a mistake that their fluency suffered. Underusers usually had fluent but
flawed speech. Optimal users found a balance that permitted communication that was both fluent and flawed relative to the experience of the user.

3. We acquired the rules of a language in a predictable order, independently of the order in which rules were presented in foreign language classes.

4. Humans acquired language in only one way: by receiving large amounts of "comprehensible input". In other words, they must be bombarded by the language in all its forms. Language growth occurred when this input was just above the learner's current level of experience.

5. Some learners had an "affective filter" that created a mental block against profiting from the bombardment of this comprehensible input. This explained why some individuals had difficulty in learning a foreign language.

Even though the use of imprecise terms and tenets made Krashen's theory difficult to test and research, it had a profound and widespread effect on foreign language teaching in the United States. Its popularity probably stemmed from the power of the metaphor of "comprehensible input". Individuals who had been in a total immersion situation understood and appreciated the concept of being bombarded by language.

**Cognitive theory.** In contrast to Krashen's contention that "learning" could not lead to "acquisition", cognitive theory focused totally on the learning process. Central to the concept of cognitive theory was that "to learn a second language [was] to learn a complex skill through dynamic problem-solving processes" (Met & Galloway, 1992, p. 865). According to cognitive theorists, there were two processes involved in learning: automaticity and restructuring. The concept of automaticity stated that through controlled
processing over time, cognitive tasks became routinized or automatic so that the learner could devote attention to tasks at the next higher level. In restructuring, the learner reorganized and converted old cognitive paradigms into new, more effective and efficient ones (Met & Galloway, 1992).

**The Functions of the Brain**

In an early study, Lado (1969) performed experiments to corroborate his theories that: "(1) Thought and language [were] distinct, and both [were] involved in performance; (2) Thought [was] central and language [was] a symbolic system that refer[red] incompletely to it; (3) Immediate memory work[ed] with utterances and texts; longer term memory work[ed] with thought; (4) Translation showed greater interference across languages than delayed recall; and (5) If relating thought and language simultaneously at normal speed and under normal thought density constitute[d] performance, then exercises that involve[d] such performance should increase learning and motivation in foreign language teaching" (pp. 7 - 9).

Lado (1969) felt that language was linear but that thought was multidimensional, encompassing the concepts of space, movement, color, sound, touch, smell, and subjectivity. Thought did not originate fully in complete words, phrases, and sentences. It could occur in much less time than was needed by language to communicate the thought; however syntactic structures were necessary in language to convey thought. Finally, there were several types of thought that developed before language and were therefore possible without language. These included enactive thought which permitted a child to do something in a different way without being told or shown and iconic thought which permitted a child to solve design problems without access to language.
With these concepts in mind, it became clear that language and thought were intertwined to the point of being inseparable. Studies on language learning and the brain have yielded interesting but inconclusive results. Munsell, Rauen, & Kinjo (1988) concluded that while certain parts of the brain had highly specialized functions, the brain operated in an integrative manner. Thus it was almost impossible to isolate brain functions. “While the left and right sides of the brain probably have specializations, such specializations are obscured in the intact function brain, are less significant than modular specialization, and probably do not lead to any defensible pedagogical implications” (Munsell et al., 1988, p. 268). They felt that “language learning should offer a rich variety of activities, give individuals choices about which types of processes they will use, and perhaps encourage those who appear overly dependent on one mode of ‘thinking’ to try a diversity of modalities. A rich mixture of inputs will probably offer the normal and healthy brain what it can best use. The brain can decide in which hemisphere it belongs” (Munsell et al., p. 268).

Buzan (1991) concurred with the concept that language learning involved many processes of the brain and was not centered just in one area. “The young child’s ability to learn language involves him in processes which include a subtle control of, and an inherent understanding of, rhythm, mathematics, music, physics, linguistics, spatial relations, memory; integration, creativity, logical reasoning and thinking; left and right cortex working from the word go” (Buzan, 1991, p. 28).

Munsell et al. (1988) also felt that it was difficult to prove that the brain was divided into conscious and unconscious processes. They could not justify making the
conscious study of grammar the highest priority of a language program, but they felt that there should be some conscious attention to form, content, and process in language instruction. "A balance and interplay among the various facets of our mental capabilities seems recommended to include rational analysis, intuitive insight, hard work, and play" (Munsell et al., p. 266).

Gardner's (1983, 1993) concept of multiple intelligences generated interest from several authors. He proposed several learner profile indicators including: (a) verbal-linguistic intelligence where the learner enjoys working with words; (b) logical-mathematical intelligence where the learner solves problems with logic and calculates answers to math problems quickly; (c) visual-spatial intelligence where the learner can visualize easily and enjoys three-dimensional tasks; (d) bodily-kinesthetic intelligence where the learner enjoys physical activities and manipulatives; (e) musical-rhythmic intelligence where the learner enjoys singing and/or playing musical instruments; (f) interpersonal intelligences where the learner works well in groups; and (g) intrapersonal intelligence where the strengths of the learner are strongly centered around the self.

Munsell et al. (1988) and Klay and Compton (1997) felt that the conclusion that the mind has multiple and somewhat independent intelligences suggested that strategies used in foreign language learning should include many different types of activities that appealed to a variety of learning styles. These ideas were corroborated by Olillphant (1990) who also advocated the use of multiple senses to facilitate memory in language learning. She felt that "the brain records information in different locations according to the sense through which it is received. When the information is stored, new neural connections are created in the
brain. Retrieving or remembering becomes easier the more places the information is stored” (Olliphant, 1990, p. 2).

The Role of Memory in Language Learning

There was consensus that one of the brain processes that was most important to second language learning was memory (Bower, 1987; Carroll, 1964; Dixon, 1992; Mikkonen & Service, 1985; Nyikos, 1985; Schleppegrell & Oxford, 1988; Service, 1987). Foreign language students generally agreed that the one factor that hindered them most in understanding and speaking a foreign language was lack of vocabulary. Syntax and grammatical accuracy helped in communication, but there was no message without words. “The implication for beginning language students in particular is that they must store much more vocabulary in their long-term memory within a short amount of time, while continuing to develop the... skill areas. Clearly the memory load on our students is taxing. This is evidenced on comprehensive final examinations, where recall of early material drops sharply often despite spiraled presentation” (Nyikos, 1985, p. 52).

Buzan’s (1991) studies on memory and recall shed light on how the memory functions of the brain worked to retain and access new information. He performed research that examined recall both during learning and after learning. He found that memory and understanding did not work in the same way as time progressed (See Figure 1). With regard to language, all words were understood, but not all were recalled at a later time. “The differences between the way in which memory and understanding function help explain why so many people find they don’t recall very much after hours of learning and understanding. The reason is that recall tends to get progressively worse as time goes on unless the mind is given brief rests” (Buzan, 1991, p. 59).
Figure 1. As time goes on, recall of material being learned tends to get progressively worse unless the mind is given proper rest (Buzan, 1991, p. 59).

With regard to recall during learning, Buzan (1991) found that:

We tend to recall: more at the beginning and ends of learning periods; more of items which are associated by repetition, sense, rhyming, etc.; more of things which are outstanding or unique...; and considerably less of things from the middle of learning periods. If recall is going to be kept at a reasonable level, it is necessary to find the point at which recall and understanding work in greatest harmony. For normal purposes this point occurs in a time period of between 20 to 50 minutes. A shorter period does not give the mind enough time to appreciate the rhythm and organisation of the material, and a longer period results in the continuing decline of the amount recalled. (p. 60)
Buzan (1991) suggested that long instructional class periods be divided into smaller segments to keep the recall curve high and to prevent it from dropping during the later stages of learning. In Figure 2 he demonstrated that small breaks would guarantee multiple high points of recall with small drops in the middle rather than only two high points of recall with a large drop in the middle.

With regard to recall after learning, Buzan (1991) found the surprising result that after a learning period, recall initially rose briefly because the brain continued to integrate the last new information, completing and linking all the interconnections within the new material. Then there was a rapid decline. "Within 24 hours of a one-hour learning period at
least 80 percent of detailed information is lost. This enormous drop must be prevented, and can be by proper techniques of review” (Buzan, 1991, p. 64).

In Figure 3, Buzan (1991) encouraged a programmed pattern of review with each review occurring at the time just before recall was about to drop. For example, the first review should take place about 10 minutes after a one-hour learning period and should itself take 10 minutes. This will keep the recall high for approximately one day, when the next review should take place, this time for a period of 2 to 4 minutes. After this, recall will probably be retained for approximately a week, when another 2 minute review can be completed followed by a further review after about one

![Figure 3](image.png)

**Figure 3.** Graph showing how human recall rises for a short while after learning, and then falls steeply (80% of detail forgotten within 24 hours) (Buzan, 1991, p. 63).
month. After this time the knowledge will be lodged in Long Term Memory. (Buzan, 1991, p. 64)

Bower (1987), too, reported that spaced out learning yielded better long-term results in the recall of vocabulary words. She found that memory for foreign language words improved if teaching and reviewing occurred at 30-day intervals rather than on a day to day basis. This study was very limited, however, in that it was confined to the simple recall of words from a list of 50 written words where students were asked to write down their Spanish equivalents at varying intervals.

**Short-Term versus Long-Term Memory**

A great deal of the literature related to language learning has been devoted to the use of mnemonic devices to enhance memory (Buzan, 1991; Nyikos, 1985; Schleppegrell & Oxford, 1988; Stickels & Schwartz, 1987; Wang, Thomas, Chegwin, & Harding, 1989). However there was also belief that for true long-term learning to occur, students must establish connections between the elements learned to make the information accessible and retrievable at a later date (Buzan, 1991; Klein, 1993; Mikkonen & Service, 1985; Nyikos, 1985; Prawat, 1989; Schleppegrell & Oxford, 1988; Service, 1987; Wang et al., 1989).

Mnemonic devices for language learning were often based on key words, cognates, and homophones with the student’s native language (Buzan, 1991; Nyikos, 1985; Schleppegrell & Oxford, 1988; Stickels & Schwartz, 1987; Wang, Thomas, Chegwin, & Harding, 1989). Many proponents of memory devices agreed that the most successful ones were created by the users themselves (Mikkonen & Service, 1985; Nyikos, 1985; Schleppegrell & Oxford, 1988).
While these memory tricks were often useful in recalling words from vocabulary lists or grammatical rules and exceptions, they rarely led to long-term memory success unless they were called into use often. Studies done by Mikkonen and Service (1985) demonstrated better results by students who were asked to "elaborate" on material that they had learned by using memorized material only as the core to construct the answer. In other words, they told the answer in their own words rather than reproducing the material they had learned in exact detail. The authors found that well-structured material was favorable for immediate retention but "for longer-term storage it [was] better if the material require[d] personal effort by the learner to analyse the contents and find the message" (Mikkonen & Service, 1985, p. 104). They felt that the constructive use of memory should replace rote memorization in school work, but they acknowledged weaknesses in determining exactly how this should be done. They were concerned that the typical classroom structure did not allow time for constructive memory activities. They felt that teachers should teach strategies that encouraged students to process new information more deeply and help to create a richer net of associations around new material.

Prawat (1989) agreed that "the student's ability to access or utilize information in potentially relevant situations is of central importance in education. If the knowledge, skill, or disposition students acquire cannot easily be accessed when needed, very little has been accomplished" (p. 32). Prawat felt that the ability to access learned information was a function of two factors: organization and awareness. Organization was equivalent to connectedness. In order for new material to be accessible at a later time, the student had to establish connections between key concepts and procedures. These connections provided
the "glue" that held the cognitive structure together which in turn would determine the accessibility or availability of the information at a later date. Prawat (1989) felt that "teachers should be extremely selective in terms of the ideas or concepts they present[ed] to students, making sure that depth of understanding in a subject matter domain [was] not sacrificed in the interest of coverage and that the ideas selected ha[d] a maximum potential for developing knowledge rich in relationships and generative in the sense of being useful in understanding a range of interesting phenomena" (p. 32).

The second important function to access was awareness which came in the form of reflectivity. Reflectivity occurred when a student was encouraged to articulate his own thoughts. This could be encouraged through dialogue and discussion, comparing and contrasting, and confronting students with alternative views which would expose the limitations in their own thinking. Prawat (1989) felt that a key issue was "how to strike the right balance between specificity on the one hand and generalizability on the other. Specific strategies are more teachable and also more powerful in the sense that, when accessed, they lead to a certain result; the problem with specific strategies, of course, is that they do not readily transfer to new, potentially relevant situations. General strategies, however, although more versatile, are more difficult to teach" (p. 33).

**Characteristics of Foreign Language Learners**

Questions often arise about the qualities that are found in good foreign language learners. Do some people have a natural aptitude for learning a foreign language? Why do some people have such difficulty in learning a second language?
During the first half of this century, "foreign language students were exactly what teachers wanted them to be, expected them to be, and were trained for them to be: between the ages of 13 and 19, college-bound, holding above a C average in English, highly motivated and achievement oriented, and knowledgeable in English grammar" (Galloway, 1983, p. 97). Most studies that have tried to identify predictors of foreign language success have been unfruitful (Izzo, 1981). Today we have left the arena of excluding and/or discouraging certain students from taking a foreign language and are focusing on better ways to take advantage of learner variability and to foster learning in all students.

Students bring to foreign language learning a great deal of "baggage". First, they bring their linguistic experience in their native language which can no longer be assumed to be English. Therefore, comparison and contrasts with the English language may no longer be effective. Also, it cannot be assumed that students have the ability or the interest to analyze and describe language. They will have varying degrees of awareness of the structure of their first language (Met & Galloway, 1992).

Students also bring with them other knowledge and certain pre-conceived ideas about thinking, behaving, acting and reacting in their own world. Finally, they bring their own complex personalities, their inherited traits, their social interaction patterns and preferences, their own learning styles, and academic "conditioning" from previous educational experiences (Met & Galloway, 1992).

Trosborg (1984) found that good language learners exhibited certain traits, skills, and interests: willingness to interact with groups, motivation to learn the language, more flexibility and complexity of language use in general, and a desire for peer cooperation.
Beebe (1984) identified other variables that contributed to improved language acquisition: willingness to take risks, influence of prior experience, degree of interest in the task, and the value of the reward.

Researchers have been able to isolate only a few cognitive traits that are conducive to language acquisition: degree of field independence (ability to separate salient from nonsalient information), tolerance of ambiguity, and reflectivity vs compulsivity.

"Impulsive learners display more spontaneity, but less accuracy; reflective learners will be slower, but more accurate in response" (Met & Galloway, 1992, p. 868).

Wong-Fillmore (1979) found that ease of second language attainment could be attributed to three variables: the language task, the learning strategies used by the student, and the personality of the student. The most successful learners were those who were uninhibited, who used an analytic approach to learning, and who were flexible in their learning patterns. Successful learners were students who wanted to be active participants in a group, who were willing to deliver output, and who sought activities that involved verbal and linguistic interaction.

Krashen, Scarcella, and Long (1982) made three generalizations about the relationship between age, rate, and eventual attainment in second language acquisition: "(1) Adults proceed through early stages of syntactic and morphological development faster than children (where time and exposure are held constant). (2) Older children acquire faster than younger children (again, in the early stages of syntactic and morphological development where time and exposure are held constant). (3) Acquirers who begin natural exposure to second language during childhood generally achieve higher second language
proficiency than those beginning as adults” (p. 16). While older learners may be more efficient in the short run, younger learners may demonstrate stronger and more lasting skills attainment in the long run.

Second language learners, then, are a diverse breed. They are both old and young. They have all spoken another language and been exposed to another culture before starting to learn a second language. They have varying needs and reasons to learn another language. They have various personality traits and social skills that may either help or hinder second language acquisition. This diversity among learners only accentuates the need for a variety of instructional techniques and strategies to enhance language learning.

The Use of Learning Strategies to Enhance Second Language Learning

The key distinction between successful and less successful language learners seems to be the use of learning strategies — the way learners comprehend, store, retrieve, and use information. Two important types of strategies have been identified (Met & Galloway, 1992):

1. Metacognitive Strategies that were important in planning and reflecting on the learning process in order to maintain and transfer all strategies. These included strategies such as paying attention, delaying speech production to focus on listening, seeing the big picture as well as the small details, and setting goals and objectives.

2. Cognitive Strategies that were strategies that the learner applied directly to the task itself. Oxford-Carpenter (1985) identified 5 major categories of cognitive strategies that were effective in language learning:
a. **Memory strategies** were used to store and retrieve information. These included grouping, associations, visual or mental imaging, clustering, and physical or auditory linking.

b. **Emphasis and summarizing strategies** were used to analyze and synthesize information. These including highlighting, outlining, and note taking.

c. **Inferencing strategies** were used to conduct informed guessing based on available information. These included using verbal context clues and relating new information to background knowledge.

d. **Elaboration and transfer strategies** were used to make tasks more personally meaningful by relating them to everyday life or to other comfortable contexts. These included transferring information to charts, graphs or diagrams, acting out scenarios, and recognizing cognates from the native language.

e. **Functional practice** was used to place the language in a communicative context to derive meaning. This was found to be the most important strategy of all.

All learners did not use all strategies equally. Beginners tended to rely on a narrow repertoire of surface-level strategies such as repetition, translation, and mnemonic devices. More experienced learners progressed to strategies that required a higher order of language thinking and use.
Cognitive psychologists agreed that the use of learning strategies could increase learning in second language acquisition. However, many students failed to use effective learning strategies due to lack of awareness, lack of motivation, or lack of belief that they work (Dansereau, 1978; Dixon, 1992; Fujita, 1984; Nyikos, 1985; Oxford, 1989; Oxford & Crookall, 1989; Wittrock, Marks, & Doctorow, 1975).

A more detailed typology designed by Oxford, Lavine, and Crookall in 1989 was often cited as a framework for language learning strategies. In a later article, Oxford (1989) summarized it as follows:

1. **Direct strategies** - those behaviors which directly involve the target language and which directly enhance language-learning.
   a. **Memory strategies** — strategies for remembering and recalling new words and structures: grouping, associating/elaborating, placing words into a context, sign imagery, semantic mapping, using keywords, representing sounds in memory, structured reviewing, using physical response, and using mechanical tricks.
   b. **Cognitive strategies** — strategies for mentally processing the language to receive and send meaningful messages: repeating, formally practicing with sounds and alphabets, recognizing and using formulas and patterns, recombining practicing naturalistically, getting ideas quickly (skimming and scanning), using resources such as dictionaries for receiving and sending messages, reasoning deductively, analyzing expressions, analyzing contrastively across
languages, translating, transferring, taking notes, summarizing, and highlighting.

c. *Compensation strategies* — strategies to compensate for missing knowledge: guessing intelligently by using linguistic clues and other clues, switching to the mother tongue, getting help from someone else, using mime or gesture, avoiding communication partially or totally selecting the topic, adjusting or approximating the message, coining words, and using circumlocution or a synonym.

2. *Indirect strategies* — those behaviors which do not directly involve the target language but which are nevertheless *essential* for effective language learning.

a. *Metacognitive strategies* — strategies for overall management of learning: over-viewing; paying attention; delaying speech production to focus on listening; finding out about language-learning principles; organizing the learning environment, learning materials, and schedule; setting goals and objectives; identifying the purpose of a language task; planning for a language task; seeking practice opportunities; self-monitoring; and self-evaluating.

b. *Affective strategies* — strategies for controlling emotions, attitudes, and motivation: using progressive relaxation; using music, deep breathing, or meditation; using laughter; making positive statements; taking risks wisely; rewarding yourself; listening to your
body; using a checklist; writing a language-learning diary; and discussing your feelings with someone else.

c. Social strategies - strategies for leaning with others: asking questions for clarification or verification, asking for correction, cooperating with peers, cooperating with proficient users of the new language, developing cultural understanding, and becoming aware of others’ thoughts and feelings. (pp. 449-450)

In a study by Oxford (1989) of the best and worst language learning experiences and strategies, memory strategies, cognitive strategies, and compensation strategies were often mentioned as being related to positive experiences. Many, although not all, metacognitive strategies were tapped during positive language learning experiences. Among the absent strategies were self-evaluation of progress, finding out about language learning, setting goals and objectives, and paying attention. Affective strategies were occasionally mentioned as used in the best experiences. Among the most frequently mentioned were self-reward, taking risks wisely, and self-encouragement. The most often cited social strategy was asking questions followed by cooperating with peers.

In the worst language learning experiences, rote memorization was the only memory strategy mentioned. Participants reported using only the weakest cognitive strategies, and no compensation strategies were reported. Some metacognitive strategies were reported, primarily used to give learners a sense of control over the language-learning process even though external learning circumstances were negative. Participants reported using a limited number of affective strategies to help improve the situation, and social
strategies were used primarily to help learners cope with a poor learning situation. Some participants in negative learning situations reported using no strategies at all, stating that they simply floated along or dropped out as learners.

This study gave foreign language teachers great insight into what kinds of language learning strategies could be taught directly and which ones could be fostered by environment and example. The study also provided the groundwork for educators to examine their own teaching to determine if the requisite conditions for language learning were present in their classrooms.

Discussion of the Research on Second Language Acquisition

There does not appear to be one dominant theory on the way that learners acquire a second language. Some individuals find it easier to learn a foreign language than others, but it is not clear whether this is due to natural ability, learning style, past linguistic experience, teaching methods, need and desire, or personality. Some language learners appear to rely more on rules of syntax while others learn simply from exposure to the language (Met & Galloway, 1992; Trosborg, 1984; Wong-Fillmore, 1979).

Krashen (1981, 1982) proposed that individuals either learned a language in a formal way or acquired the language in an informal way. Acquisition produced a more natural language speaker but could occur only when the learner received large amounts of "comprehensible input". Cognitive theorists, on the other hand, felt that learners could practice language skills to the point that they became automatic. Learners could then transfer these automatic paradigms to other language skills to produce more complex language (Met & Galloway, 1992).
Lado (1969) and Munsel et al. (1988) agreed that language learning did not occur in a linear manner. It relied on input from many sources and reinforcement from all the senses. While certain parts of the brain had highly specialized functions, the brain operated in an integrative manner. Munsell et al. and Klay and Compton (1997) felt that the conclusion that the mind had multiple and somewhat independent intelligences suggested that strategies used in foreign language learning should include many different types of activities that appealed to a variety of learning styles. These ideas were corroborated by Olliphant (1990) who also advocated the use of multiple senses to facilitate memory in language learning.

The importance of memory to second language learning was echoed by many. Foreign language students generally agreed that the one factor that hindered them most in understanding and speaking a foreign language was lack of vocabulary. Syntax and grammatical accuracy helped in communication, but there was no message without words (Bower, 1987; Carroll, 1964; Dixon, 1992; Mikkonen & Service, 1985; Nyikos, 1985; Schleppegrell & Oxford, 1988; Service, 1987).

Buzan’s (1991) studies on memory indicated that recall and understanding worked in greatest harmony for a time period of between 20 to 50 minutes. A shorter period did not give the mind enough time to appreciate the rhythm and organization of the material, and a longer period resulted in the continuing decline of the amount recalled.

Prawat (1989) agreed that the student’s ability to access information was of central importance in education. If the knowledge or skills students acquired could not be easily accessed when needed, very little had been accomplished.
Cognitive psychologists agreed that the use of learning strategies could increase learning in second language acquisition. However, many students failed to use effective learning strategies due to lack of awareness, lack of motivation, or lack of belief that they worked (Dansereau, 1978; Dixon, 1992; Fujita, 1984; Nyikos, 1985; Oxford, 1989; Oxford & Crookall, 1989; Wittrock, Marks, & Doctorow, 1975).

After considerable analysis, it became clear that many variables affected a student's second language acquisition. These included natural ability, learning style, past linguistic experience, teaching methods, need and desire, and personality. No one variable could be pinpointed as the secret to successful language learning. Apparently, language learning is unique to each individual, and teachers and learners of second languages must rely on all of the natural abilities, skills and learning strategies that are available to them.

The Relationship Between Time and Learning in the Classroom

The issue of time and learning is moving increasingly to the forefront of American education. Because time is a variable that can be easily manipulated, it is often discussed as a key component to educational reform. Proponents of a restructured school day point out that the organization of schools in America has not changed substantially during the last century in spite of enormous changes in society and technology. Essentially, the arrangement of the school day, the expectation that all students should achieve the same thing at the same rate, and the measurement of progress by how much time students spend in a class are all archaic conventions of days gone by. As America's population grows and changes, so have the needs of students. Those who advocate the restructuring of the school
day anticipate improved student achievement by using time in creative ways to meet the
needs of individual students in terms of ability, career training, and social preparation.

The National Commission on Time and Learning

Time and learning have become such a focal point in the field of education that in
1994 the President of the United States assembled the National Education Commission on
Time and Learning to study time and learning in our schools. While the issues of time and
learning were at the heart of educational research during the 1970's and 1980's, renewed
interest in the topics came in 1994 when the National Education Commission on Time and
Learning published its report Prisoners of Time. This report claimed that time was the
missing element in the great national debate about learning and the need for higher
standards for all students. Indeed, American public schools had held time constant and let
learning vary. The instruction and learning of our school children was controlled by the
clock in an archaic manner that had its roots in the agrarian society of the early 1900's.

The Commission found that:

1. Schools still opened and closed their doors at fixed times.
2. The school year consistently lasted only nine months or 180 days.
3. Schools offered only a 6-period day.
4. Credit was still assigned on the basis of a Carnegie unit representing seat time
   rather than knowledge learned.
5. Class periods were, on the average, 51 minutes long regardless of how complex or
   how simple the subject to be learned.
The National Education Commission was alarmed because the reality of today's world was no longer dependent on the farms and factories of yesteryear. Our educational practices were leading to a poorly educated public that could not compete in the global economy. Most Americans supported higher academic standards but were also driven by the patterns and activities that had always been a part of American education — the so-called nonacademic activities that were associated with our schools. The American public feared that more rigorous standards might further disadvantage some of our students who were already at risk. Holding all students to the same high expectations might mean that some students would need more time to meet them, just as some might require less. The Commission felt that “until our nation embrace[d] the importance of education as an investment in our common future . . . nothing [would] really change. . . . Education [had] to become a new national obsession, as powerful as sports and entertainment, if we [were] to avoid a spiral of economic and social decline” (National Education Commission, 1994, p. 10).

As a result of its investigation, the National Education Commission (1994, p. 13) defined 5 unresolved issues that it felt presented insurmountable barriers to efforts to improve education in America. These were:

1. The fundamental design flaw of the fixed clock and calendar for schools

   With such diversity of ability levels among students, common sense as well as research confirmed the concept that some students would take longer than others to learn the same thing. Yet, our schools did not allow for such variation in time to remediate slower students or accelerate faster students.
2. The theft of academic time to make room for nonacademic activities

Schools have been asked to shoulder the responsibility for teaching many nonacademic subjects such as personal safety, consumer affairs, AIDS awareness, energy conservation, and character education. Additionally, traditional nonacademic activities such as counseling, gym, study halls, homeroom, lunch, and pep rallies occupied an inordinate amount of the school day. Most Americans believed that these activities were worthwhile, but “how much academic time can be stolen from Peter to pay Paul?” (National Education Commission, 1994, p. 15).

3. The modification of schools to respond to the great changes that have reshaped life outside school

American life has changed profoundly during the last generation. Family structures have changed, and the workforce is different. Society is more diverse, and income inequality is growing. Technology threatens to increase the gap between the “haves” and the “have-nots”. “Today’s students bring many more problems to school than children did a generation ago. [They] receive less support outside school and increasingly exhibit destructive behavior ranging from drug and alcohol abuse to gang membership and precocious sexual activity” (National Education Commission, 1994, p. 16).

4. The fact that educators did not have time to do their jobs properly

School reform would take time, but teachers were not granted the opportunity to prepare for and initiate this reform. They needed more built-in time for reading, planning, collaboration with other teachers, and professional development.
5. The fact that mastering world-class educational standards would require more time for almost all students.

Subjects that have been traditionally "squeezed out" of the core curriculum were demanding increased importance and interest. New standards were being created in the arts, geography, and foreign languages. Additionally, most students would find the traditional core curriculum more demanding once higher standards were in place.

The National Education Commission on Time and Learning (1994) offered eight recommendations that would help put time at the top of the nation's educational reform agenda:

1. Reinvent schools around learning, not time

   It was pointless to add more time to the school day if that time was to be used in the same way. Students should be required to master certain core courses, including English and language arts, mathematics, science, civics, history, geography, the arts, and foreign language. This core was in line with the expectations that were made of students abroad.

2. Fix the design flaw: Use time in new and better ways

   A more flexible schedule would encourage greater use of team teaching and group work. It would permit more individualized instruction that would recognize the different learning styles of students. The requirements for a high school diploma would be based on meeting high performance standards rather than on seat time or the Carnegie unit.

3. Establish an academic day

   At least 5.5 hours of each school day should be devoted to instruction in the core courses that were listed above. In essence, the school day should be devoted almost exclusively to core academic instruction.
4. Keep schools open longer to meet the needs of children and communities

Schools that remained open throughout the year could provide services to students and adults alike. More time devoted to school attendance would mean less learning loss during vacations.

5. Give teachers the time they need

Teachers should have sufficient time for planning, preparation, cooperation, and professional growth. It should not be viewed as a frill or an add-on, but as a major component of educational reform.

6. Invest in technology

Technology would make it possible to do more with less and would assist with personalized learning.

7. Develop local action plans to transform schools

Long-lasting reform in schools required a grass-roots initiative. All stakeholders should become engaged in “a comprehensive, long-term dialogue about the hopes, aspiration, and future directions of local education” (National Education Commission, 1994, p. 38).

8. Share the responsibility: Finger pointing and evasion must end

“Learning must become a national obsession in the United States, . . . . and schools cannot do the job alone. . . . To put learning in America powerfully back on track everyone will have to do more, make sacrifices, and work harder” (National Education Commission, 1994, p. 40).
The publication of *Prisoners of Time* in 1994 by the National Commission provided the ammunition needed by proponents of school restructuring. Attention was re-focused on an unchanging school program in a rapidly evolving society. The conclusions of the report emphasized the need for the restructured use of time to maximize learning for all children regardless of how quickly or slowly they learned. It was important to vary time as necessary to maintain a consistently high level of learning among all students. The Commission believed that all students could learn given enough instruction and time.

Such restructuring would not occur overnight, however. School officials would need to take necessary steps to ensure that core courses truly received maximum exposure in the curriculum. Further, school hours and schedules would have to be adjusted to increase time for instruction, and instruction itself would have to change so that the needs of all students could be met via a re-organized school day. In order for these changes to occur, teachers would need time and training to develop new and more effective instructional techniques and strategies. What seemed like relatively simple recommendations from the National Commission on Time and Learning would actually entail enormous planning and reorganization of an educational institution that was steeped in tradition and immobilized by inertia.

**Carroll's “Model of School Learning”**

This interest in time and learning was not new. One of the seminal works on the issue was published by John B. Carroll in 1963. His “Model of School Learning” laid the groundwork for further study of the topic. In fact, many of Carroll’s points were embraced by the report issued by the National Education Commission (1994). There was concern
that "school learning is still characterized by passivity on the part of learners, that curricula are textbook driven, and that schooling emphasizes competition among learners. Reformers are still calling for reorganization of instruction to allow more differentiation in the treatment of individual learners, for instruction that is squarely based on carefully chosen student-learning outcomes, and for continual and lifelong learning" (Fisher & Berliner, 1985, p. 73).

Carroll's model demonstrated that learners would succeed in learning a given task to the extent that they spent the amount of time that they needed to learn the task. "Spending time" meant being actively engaged in the process, not just spending elapsed time being exposed to the process. He was the first to develop a model of learning in which time played the major role. In fact, his work can be summed up in the following equation:

\[
\text{degree of learning} = \int \frac{\text{time actually spent}}{\text{time actually needed}}
\]

Presented in Figure 4, his model held five factors or variables:

1. **Aptitude** - The amount of time required by the learner to attain mastery of a learning task.

2. **Quality of Instruction** - The degree to which the presentation, explanation, and ordering of elements of the task to be learned approached the optimum for the learner.

3. **Ability to Understand** - The ability of the learner to understand the nature of the task he was to learn and the procedures he was to follow in the learning task.

4. **Perseverance** - The time the learner was willing to spend in learning.
5. Time Allowed for Learning - The concept that not all students needed the same amount of time to master a skill. Some may need more, others less.

It is interesting to note how closely Carroll’s (1963) ideas paralleled those of the National Commission on Time and Learning (1994). Yet, in the 30 years between the publication of Carroll’s work and that of the National Commission, American educators as a whole had done very little to address the issue of increased time as a means of improved learning. For 30 more years, the American school day had followed the same structure of 6 or 7 class periods of 45 to 55 minutes in length. But while the school schedule remained static, the students, subjects offered, educational expectations, and societal demands were changing significantly and rapidly. It took a government report coupled with declining student performance by Americans in the international arena to serve as a catalyst to school restructuring and reform.
Quality Instructional Time

For Carroll and others who followed (Berliner & Fisher, 1984; Bloom, 1968; Harnischfeger & Wiley, 1984; Smyth, 1984), the issue of time was more than just seat time or exposure. A critical consideration was how the time was used. This use of time was not dependent totally on the teacher. In fact, teacher behavior, as such, did not influence student achievement directly. The student had a certain amount of responsibility to persevere and participate in the tasks as well.

Time alone did not have any kind of magical quality. The important thing was the way in which teachers chose to allocate time and the way in which pupils were allowed to spend that time (Smyth, 1985). Researchers then began to focus their study of the teaching-learning process on “pupil pursuits” (Harnischfeger & Wiley, 1984).

Research by Harris and Yinger (1976) using time-based variables established a high correlation of time spent on instruction with pupil learning. Even though such conclusions could also arise naturally from common sense, Berliner (1976) felt then, and there is still concern today (National Education Commission on Time and Learning, 1994), that little data are available that describe the nature of the instructional activities and learning episodes that a child engages in each day. It would be important to establish accurate records of how time has been allocated to the various instructional activities that are necessary to effective learning.

Work by Bloom (1968) and his graduate students at the University of Chicago generated a flurry of empirical studies on time and learning during the 1970's. Of note here is the work from the Far West Laboratory for Educational Research and Development...
known as the Beginning Teacher Evaluation Study (Smyth, 1985). This work generated some of the most persuasive evidence on time and learning. The group gave the name Academic Learning Time (ALT) to a group of loosely linked variables that were related to the amount of time a pupil spent on attending to academic learning tasks under conditions that would yield a high level of learning success. These studies generally confirmed the relationship between ALT and achievement, showing that the more ALT a pupil accumulated, the greater the presumption of learning. There were three individual elements that collectively constituted ALT:

1. **Allocated Time** - The amount of time made available by the teacher for learning.
2. **Engagement Rate** - The proportion of allocated time during which pupils appeared to be learning as evidenced by their overt attending to learning tasks.
3. **Success Rate** - The relative proportion of observed instructional time pupils spent on tasks providing high, medium, and low levels of success respectively.

Certain teacher interactive behaviors were directly related to high levels of pupil task engagement. Teachers who emphasized academic goals and who displayed high levels of actual involvement with pupils on learning tasks, in contrast to seatwork or assignment activities, generated higher levels of achievement among their pupils. Similarly, clarity of teacher directions on how to undertake learning tasks, praise, and feedback on correctness of pupil responses were associated with higher levels of pupil learning. Alternatively, where teachers did not predict learning difficulties accurately or responded to pupil learning problems on an ad hoc
basis or where teachers frequently criticized or reprimanded pupils, then these teachers had classrooms where ALT and pupil achievement were low. (Smyth, 1985, p. 14)

One of Bloom’s (1968) earliest articles on mastery learning emphasized that “most students (perhaps over 90 percent) can master what we have to teach them, and it is the task of instruction to find the means which will enable our students to master the subject under consideration” (p. 74). Bloom (1968) felt that teachers were too conditioned to using the normal distribution curve in assigning grades to students, thus almost pre-ordaining a certain percentage of grades in each of 5 categories: A, B, C, D, F. He pointed out that the normal distribution was most appropriate to chance and random activity, but that education was a purposeful activity where we sought to have students learn. Thus, if we were effective in our instruction, the distribution of student achievement should be different from the normal curve.

Bloom (1968) suggested several strategies that he felt would lead to mastery learning: working one-on-one with students, permitting students to progress at their own pace, guiding students with respect to courses that they should or should not take, and providing different tracks for different groups of learners. Aspects of many of these suggestions have been tried with varying degrees of success since the appearance of his article. The concept of one-on-one tutoring was not economically feasible, and tracking students has become an unpopular means of grouping students as our education system strives for heterogeneous grouping. Also, since most school districts stated the education of all children as their mission, the concept of certain courses for only certain students has become less acceptable.
However, the issue of time and learning continued to attract school reformists. Armed with the earlier research and the National Education Commission’s report, schools began to explore innovative ways to increase the time that was available to students for academic learning. Although not new to education, two ideas came to the forefront: year-round schools and block scheduling.

**Year-Round Schools**

During the 10 year period from 1985 to 1995, the number of schools in the United States that used a year-round schedule grew from 410 to 2,252 (Ballinger, 1995). Proponents felt that year-round schooling would eliminate the significant learning loss that occurred during the summer and that required substantial time each fall for reteaching the previous year’s lessons. It would allow educators to be more effective with students who had different learning needs and help students whose primary home language was not English. It would permit enrichment and remediation where they were needed to help maintain student interest in learning (Ballinger, 1995).

In 1994, Winters reviewed 19 studies related to year-round schooling and academic growth. The study revealed that students in year-round settings performed better on achievement tests than did their counterparts who followed the traditional school calendar. Kneese (1994) also investigated the impact of the year-round calendar on student achievement and found statistically significant higher scores in both math and reading achievement for students who attended year-round schools.

**Block Scheduling**

The second idea that has captured the interest of high school reformers is block
scheduling. This scheduling format will be addressed in greater detail in a later section of this literature review.

Much of what we know about the relationship between time and learning is based on common sense. This is partially why researchers took it for granted for so long, not fully recognizing the important role that it played in the overall picture of learning. Berliner and Rosenshine (1977) summed it up well when they concluded, “The factors relating to knowledge acquisition in the classroom may be viewed as both disarmingly simple, and frightfully complex at the same time” (p. 394).

Discussion of the Research on Time and Learning

It is hard to dispute the complaints that time has been the constant in American education while learning has been the variable. Societal changes have created many challenges that compete with education for valuable time. Life in the 1990's requires incredible agility to juggle the demands of family, job, and leisure. Each of these in some form detracts from the time that children spend in formal education (National Education Commission, 1994).

In comparing the American school system to those of other nations, it became apparent that many aspects of American culture interfered, often unintentionally, with education. The social events associated with school such as pep rallies, dances, sports, and clubs often absorbed valuable learning time from our schools. Yet most Americans could not bring themselves to banish such time-honored traditions from their children’s lives. Based on these facts, it is not likely that educators will be able to make sweeping reforms quickly, so they must learn to work with what they have.
The American way of life also placed many non-school-related activities above school on the ladder of priorities. Modern middle class parents sought social involvement and acceptance by enrolling their children in many extra-curricular activities. Often this abundance of activities encroached on the time that students could be spending doing homework or resting and preparing for school.

Yet, as early as 1963, Carroll felt that time played a critical role in learning along with a student's aptitude, ability to understand, perseverance, and the quality of instruction that he received. While the last four factors were difficult to control, educators could control the variable of time. Later research (Berliner & Fisher, 1984; Bloom, 1968; Harnischfeger & Wiley, 1984; Harris & Yinger, 1976; Smyth, 1984) emphasized the importance of how teachers allocated class time and the ways in which students spent that time. Seat time was not sufficient. Successful learners had to be actively engaged in the learning process.

Since educators cannot control time spent outside the classroom, they must find ways to maximize the time that students spend in school and to seek ways to extend learning beyond the classroom. This brings us, then, to the issue of homework which many teachers view as practice of skills learned in class or preparation for new learning yet to come. In a school day where non-instructional activities and requirements often interfere with pure instructional time, homework is sometimes viewed as one way to extend learning beyond the classroom.
The Role of Homework in Extending Classroom Learning

A review of the literature on the effectiveness of homework as an instructional tool revealed that this has been a topic of debate for decades. Students, teachers, parents, and administrators have both positive and negative opinions about the frequency and length of homework assignments, the purpose of the assignments, and whether or not homework should be assigned at all. One of the problems that has become apparent in reviewing homework studies is the difficulty in controlling or even documenting all the variables that impact the assigning and completion of homework (Cool & Keith, 1991; Cooper, 1994; Copple, Kane, Levin, & Cohen, 1992; Foyle & Bailey, 1988; Keith, 1982; Thomas, 1992).

In order to have a significant homework study, many teachers and students must be sampled. Most homework studies have relied on self-reports or surveys from these two groups, and this has led to questionable reliability and accuracy of the information that has been collected. Another problem of previous studies was the emphasis on the use of homework in the core courses of English, science, social studies, and especially mathematics. In the area of foreign language education, there were very little data available about the effects of homework on student learning (Kazmierzak, 1994).

The general findings from the review of many studies and meta-analyses were that the effectiveness of homework as an instructional tool was inconclusive. But while homework had varying impact at different grade levels and with different subject areas, it was not harmful to student learning and achievement (Foyle & Bailey, 1988). This finding, coupled with pressure and expectations from parents and the general public, has led teachers to continue assigning homework to their students. In many cases, schools and
school districts have adopted homework policies, which by their very nature were general to accommodate the differences among students, teachers, and subjects taught. It was clear, however, that such policies were difficult to enforce and even more difficult to evaluate due to the need for such individualization and the lack of empirical research supporting the effectiveness of homework.

**What is Homework?**

Most researchers of homework generally agreed that homework was work assigned to students by teachers that was intended to be done outside of school time (Cooper, 1989, 1994; Kelley & Kahle, 1995; Thomas, 1992). However, this simple definition did not explain the many variations that could occur within homework assignments. Cooper (1994) defined the following distinctions within homework assignments: (a) amount, (b) purpose, (c) skill area used, (d) degree of individualization, (e) degree of student choice, (f) completion, and (g) social context.

**Amount of homework.** The amount of homework assigned can be defined in two ways: (a) the frequency with which homework is assigned, and (b) the length of the assignments (Cooper, 1994). Paschal, Weinstein, and Walberg (1984) found that daily homework produced more effective results than homework that was assigned sporadically.

Homework was one of the areas in which American students have suffered in comparison to their international counterparts (Copple, Kane, Levin, & Cohen, 1992; Griffith, Fromboluti, Frase, & Snyder, 1994; Paschal, Weinstein, & Walberg, 1984; Walberg, Paschal, & Weinstein, 1985). Walberg et al. (1985) found that the average American student spent 4 to 5 hours per week on homework compared to 28 hours of
watching television. In contrast, students in most other countries spent 8 to 9 hours per week doing homework. Walberg (1991) felt that it was difficult to state exact time requirements for homework. He suggested the following:

- Grades K - 5: 1 - 2 hours per day.
- Grades 6 - 8: 3 - 4 hours per day.
- Grades 9 - 12: 4 - 5 hours per day.

Stiles (1992) also conducted a study in an international environment. While teaching in an international school in Bangkok, he noticed differences in test scores among American, European, and Asian students in his biology classes. In an American-style school where classes were conducted in English, the Asian and European students were out-performing the Americans. In a survey, he found “that Americans lagged behind the Asian students by 22 percent and behind the Europeans by 45 percent in time spent doing homework. The average time spent watching videos, TV, or listening to music was greater in each group than the time spent doing homework, but the difference was greatest among the Americans” (Stiles, 1992, p. 62).

The greatest discrepancy occurred in the amount of time spent socially with families. The Europeans and Asians spent twice as much time with their families as the Americans. Stiles concluded that close family ties led the European and Asian students to take greater interest and pride in academic achievement. He suggested that “if Americans [were] truly interested in upgrading their schools, parents must begin by taking more (or at least some) responsibility for their children’s success instead of expecting the schools to do it all” (Stiles, 1992, p. 63).
Purpose of homework: Homework can have both instructional and non-instructional purposes (Cooper, 1994). Most teachers cited the following instructional reasons for assigning homework: (a) practice, (b) preparation, (c) extension (Lee & Pruitt, 1979; Palardy, 1995). Lee and Pruitt (1979) added integration and Thomas (1992) added creative assignments to this taxonomy. Non-instructional purposes included: (a) parent-child communication, (b) fulfilling directives, (c) punishment, (d) community relations (Lee & Pruitt, 1979). Most homework served more than one of the purposes listed above (Cooper, 1994).

Practice homework reinforced the learning of material that had already been presented in class. Preparation assignments introduced material to be presented in upcoming lessons. Extension homework required students to transfer knowledge or skills previously learned to new situations. In integration homework, the student applied many separately learned skills or concepts to produce a single product such as a book report or a project (Cooper, 1994).

Kazmierzak (1994) wrote that “homework should complement what students learn at school and should challenge, but not overwhelm the student” (p. 6). Cooper (1989) believed that homework was most effective when the material was not complex or overly novel. Paschal, Weinstein, and Walberg (1984) maintained that traditional homework was superior to non-traditional homework. Kazmierzak (1994) believed that homework should never be assigned as punishment.

Skill areas used in homework: Various assignments asked students to use different skill areas: reading, writing, memorizing, rehearsal, etc. (Cooper, 1994). Often more than one skill was involved in an assignment.
Alleman and Brophy (as cited in Kazmierzak, 1994, p. 6) felt that "the most suitable assignments . . . engaged students in higher-order thinking and allowed for individualism". Kazmierzak (1994) agreed that homework should involve higher-order thinking skills and should be given in a variety of forms.

However, an Illinois survey of 92 high schools found that the most common types of homework were answering textbook questions (50%) and doing worksheets (25%). Assignments which required critical thinking skills were assigned infrequently (Murphy & Decker, 1990).

**Homework completion.** There was growing concern among teachers that even though homework was assigned, students did not complete it correctly or did not do it at all (Kelley & Kahle, 1995; Levine & Anesko, 1987). Kelley and Kahle (1995) acknowledged that homework researchers frequently neglected to evaluate whether students who received homework assignments actually attempted and/or completed them. Some authors (Kazmierzak, 1994; Kelley and Kahle, 1995; Palardy, 1995) felt that teachers should take ample time to explain the assignment at some point during the class. Assignments that were hastily made at the end of class led to a high probability that they would not be completed because students failed to write them down or did not understand how to do them.

**The Effectiveness of Homework**

Cooper (1994) grouped the effects of homework into positive and negative categories. Positive effects included:

1. Better retention of factual knowledge.
2. Increased understanding.
4. Encouragement of learning during leisure time.
5. Improved attitude toward school.
6. Better study habits and skills.
8. Better time management.

Negative effects of homework included:
1. Physical and emotional fatigue.
2. Denial of access of leisure time activities.
3. Confusion of instructional techniques.
4. Copying from other students.
5. Repetition of errors.

After substantial research on the subject of homework, the results were inconclusive (Thomas, 1992). It was possible to find research studies that both refuted and supported the effectiveness of homework on academic achievement. A study by Cool and Keith (1991) pointed out the difficulty in assessing the effectiveness of homework because of other intervening variables. They found that student motivation had the strongest effect on homework followed by academic course work, gender, and quality of instruction.

Paschal, Weinstein, and Walberg (1984) cited educators and lay writers who opposed
homework on the grounds that it was unwholesome, professionally unsupervised, and allowed students to practice their mistakes.

Bents-Hill and others (as cited in Thomas, 1992) found that as homework time increased, students' grades remained the same, and in some cases decreased. However, homework did appear to be more effective as the child grew older. They concluded that the amount of homework did not contribute significantly to a student's achievement test scores, competency test scores, or teacher-assigned grades. Based on this study, Thomas wondered if it was possible for homework to even be counterproductive beyond a certain point.

Barber (1986) also felt that the claims of homework effectiveness on student achievement were not well documented. In response to a well-publicized study by Walberg, Paschal, and Weinstein (1985), he wrote that their research "did not support homework as a means of improving student achievement. In fact, the majority of the studies cited in the article [had] nothing to do with whether the assignment of homework [did] or [did] not affect student achievement" (Barber, 1986, p. 55).

Other researchers, however, have documented that regular homework improved student achievement, especially if it was assigned on a regular basis and children were held accountable for doing it (Office of Educational Research and Improvement, 1992). Most studies that have assigned students to groups with homework versus groups that received no homework have shown that the first group had better problem solving and computation skills and better grades (Cooper, 1994; Kelley and Kahle, 1995).
An early study by Cooper (1989) which synthesized the results of 15 empirical studies demonstrated that the effects of homework on learning in students were large. Cooper asserted that time on task was a solid predictor of learning, and that essentially, homework extended the school day. A student who did 4 hours of homework per week added 13% to his or her school day.

In his 1989 study Cooper documented 43 correlations which indicated that students who did more homework had higher achievement scores. He found only 7 correlations which indicated the opposite. His study revealed that time spent on homework was most beneficial to high school students, moderately beneficial to middle school students, and negligible for students in grades 3 - 5.

In 1982, Keith conducted a study using a large sample of 20,364 high school seniors drawn from the 1980 National Center for Education Statistics’ High School and Beyond longitudinal study. He used a path analysis to analyze data collected from the study. It confirmed that an increase in time spent on homework had a positive effect on student’s grades in high school. His results refuted the argument that increased study time led to diminishing returns in achievement. There was a strong linear relationship between grades and homework time at all ability levels.

Chen and Ehrenberg (1993) felt that a distinction should be made on how student achievement was measured when considering the effect of homework. They felt that teacher grades were a better measure of achievement for these purposes than standardized tests. They concluded that regular preparation of homework was often a component of teacher grades and that teachers sometimes exaggerated the value of the effort of students.
Thus, a student who prepared his or her homework deserve[d] a higher grade, even if his or her test results were not satisfactory. Similarly, a student who [knew] the material but [did not] do his or her homework deserve[d] a lower grade” (Chen & Ehrenberg, 1993, p. 406). Keith (1982) noted this same phenomenon and expressed concern that it contributed to grade inflation which in turn “could be contributing to the erosion of confidence in the public schools” (p. 252).

**How Does Homework Support Learning?**

Earle (1992) suggested that homework was, indeed, an instructional event. Even though many educators were not sure how homework was associated with better achievement, they intended it to be used in an instructional manner. He used Gagné’s model of learning and memory to demonstrate how homework helped to transfer learning from short-term memory to long-term memory so that it would be available for retrieval at a later time. He cited the following ways that homework could reinforce classroom learning:

1. By stimulating recall of prerequisite learning.
2. By presenting the stimulus material.
4. By providing feedback about performance correctness.
5. By assessing the performance; and
6. By enhancing retention and transfer.

He noted that while homework usually did not teach, it was an effective instructional assignment.
Copple, Kane, Levin, and Cohen (1992, p. 47) agreed that homework was an inexpensive way to extend learning time. In their briefing report for the National Education Commission on Time and Learning, they wrote that the value of homework depended on how interesting and useful the assignments were. They noted four questions that they felt needed to be answered more thoroughly to explain if homework was effective, and if so, how it worked:

1. What kinds of homework experiences are most productive and engaging for students?

2. How can teachers, perhaps in cooperation with parents, evolve homework experiences that are more engaging than those students have now?

3. How can homework provide opportunities for active, applied learning?

4. How can homework be tailored to different learning styles, learning disabilities, and other individual differences among students?

**Homework and Foreign Language Instruction**

Only a few studies related to homework and foreign language instruction were located. Wallinger's (1997) qualitative case study found that homework in foreign language classes emphasized reading and writing skills far more than listening and speaking skills at all levels of language study. Homework assignments for beginning foreign language students tended to focus on worksheets and grammar or vocabulary exercises. Assignments for upper level students tended to be more varied with activities such as writing journals, preparing for discussions, doing research, and reading. All teachers who participated in the study indicated that they felt that homework was a very
important part of foreign language study because students needed more practice than they had time for in class.

Kazmierzak (1994) felt that language learning was the most difficult at the second year level and that daily study and practice were necessary. She conducted a small study of only 13 students in a high school German II class. She compared the final grades from two marking periods, one where she checked homework daily and the other where homework was assigned and discussed but not checked by the teacher. She found that when a grade for homework completion was a part of the final grade for the first marking period, those grades were higher. However, when the homework completion grade was removed, and the actual grades of the students were used as a measure, there was no significant difference in student performance. She concluded that the issue was not the time spent on homework or its completion but rather the type of homework assignment that she gave. A student survey indicated that the most helpful assignments were those where they wrote paragraphs in German to express their own thoughts. Also, assignments where she had made written remarks were more beneficial because the comments were individualized to the particular student. Students also stated that in making an assignment, the teacher should write it on the blackboard or overhead rather than giving it verbally.

Homework and Block Scheduling

Particularly related to homework and block scheduling was the issue of allowing a portion of the longer class period for homework completion. A report by the Wisconsin Association of Foreign Language Teachers (1995, p. 10) acknowledged that homework on a block schedule is an unresolved issue. The pacing of instruction on the block may not
provide enough time to allow an idea to mature and clarify. Depending on how the course is structured, students may have less homework if time is permitted to complete the assignments during the class period. On the other hand, in order to cover enough content students may need to complete more homework on certain schedules because the number of clock hours per year in a block schedule is less than in a traditional schedule.

In a survey conducted by the Fairfax County (VA) Public Schools (1997), teachers as a whole reported that students instructed on a daily schedule with shorter periods were more likely to complete their homework than those on a block schedule. They also felt that students who met daily were better able to catch up on their school work after absences from class.

Discussion of the Research on Homework as an Extension of Classroom Learning

It was evident from the research that the amount of time students spent doing homework was relative to each student. Murphy and Decker (1990) pointed out that homework demands were inequitable. They found that 98% of teachers who taught advanced courses assigned homework. In contrast, only 77% of the students in vocational classes, 79% of special education students, and 83% of general education students received homework assignments. Most research pointed to the fact that “student achievement rises significantly when teachers regularly assign homework and students conscientiously do it. . . . Well-designed homework assignments related directly to classwork and extend students’ learning beyond the classroom. Homework is most useful when teachers carefully prepare the assignment, thoroughly explain it, and give prompt comments and criticism when the work is completed” (U.S. Department of Education, 1987, pp. 51 - 53). However,
there was agreement that much of the homework research may not be totally credible because of reliance on surveys and self-report and the failure to consider other intervening variables (Cool & Keith, 1991; Cooper, 1994; Copple, Kane, Levin, & Cohen, 1992; Foyle & Bailey, 1988; Keith, 1982; Palardy, 1995; Thomas, 1992).

In spite of the inconclusive nature of the research, however, the general expectations from students, parents, and the public supported the continued use of homework (Cooper, 1994; Foyle & Bailey, 1988; Palardy, 1988; Thomas, 1992). Based on research conducted for this study, a case could be made either for or against homework assignments. However, given the current results from the research, whether or not homework affected a student's academic performance was a highly individual matter tied to his or her age, ability, motivation, and course load (Cool & Keith, 1991; Cooper, 1994). While there did seem to be a relationship between homework and academic achievement, it cannot be assumed that increased homework necessarily caused high achievement. It could be that high achievers were naturally assigned more homework due to the nature of the courses that they took and were naturally more motivated to do it (Cool & Keith, 1991).

It was also important to consider the kind of learning that homework was being used to reinforce and the kinds of assignments that teachers were making. There was support that skill-based learning benefited from assignments that allowed students to practice skills until they became good habits (Cooper, 1989, 1994; Copple et al, 1992; Earle, 1992; Thomas, 1992).
Since this research study was focused on foreign language learning which is based on the four skills of reading, writing, speaking, and listening, a case could be made for homework assignments that extended class time where sufficient practice may not have occurred in class. However, teachers must monitor these assignments to limit the chance of incorrect practice that could also encourage bad habits to become second nature. Other unresolved issues were the completion of homework (Kelley & Kahle, 1995; Levine & Anesko, 1987) and the use of class time for homework (Fairfax County, 1997).

This use of homework could become especially important on certain schedules (particularly the alternating day block) where there was a time lapse between classes. Since students did not receive daily reinforcement for foreign language learning, well-designed homework assignments could help decrease loss of learning that might occur.

Another consideration on the 4 x 4 block scheduling was the reasonableness of assigning the quantity of homework that might be expected to reinforce the new skills that were being learned rapidly in a compressed amount of time. It would be particularly important for teachers to assess their homework assignments to maximize the limited practice time that may occur on such a schedule.

**Non-Instructional Time and Learning Loss**

The issue of block scheduling as an organizational feature in high schools naturally initiated an interest in learning loss as well. There has long been a concern over the learning loss that occurred during the three-month summer vacation on a traditional school calendar. Various forms of block scheduling create other periods of non-instruction that must be considered here as well.
The alternating day block schedule provides a day of instruction followed by a non-instructional day in that subject. Instead of 2 days away from the class on weekends, a 3-day weekend occurs. Some users of the schedule liken every instructional day to a Monday because there is no instruction or reinforcement on the previous day.

The 4 x 4 block schedule does provide daily instruction, but when one class in a sequence has finished, there is often a long time interval before the next class is taken. While this issue is not of direct concern to this study, it does have long-term implications for the study of foreign languages on a 4 x 4 schedule.

The Effect of Summer Vacation on General Learning Loss

The issue of vacation time and learning retention has been of interest to educators since at least the beginning of the twentieth century. The earliest known study on the topic was reported in 1906 (Cooper, Nye, Charlton, Lindsay, & Greathouse, 1996). In that study, White (1906) tested seven students for math computational skills in June and then again in September. He found that there was loss of speed of computation but not of accuracy. Exactly 90 years later, Cooper et al. (1996) reviewed 39 research reports (including White’s) that contained descriptions of empirical studies that tested the effect of summer vacation on school achievement. This was the most recent and most comprehensive study available on the effects of lack of instruction on learning loss.

The researchers divided the studies into two groups: (a) those conducted prior to 1975, and (b) those conducted after 1975. They felt that few of the earlier studies provided data that were suitable to be included in a meta-analytic review, and they were concerned that because of the age of the studies, they might not represent the student of the 1990's.
The results of the first 26 studies were synthesized using a vote count of the simple direction of findings (either there was learning loss or there was not). A formal meta-analysis was performed on the results of the remaining 13 studies.

For the studies conducted prior to 1975, the researchers concluded that summer vacation did have “a detrimental effect on the math computation and spelling skills of students in middle grades. Also, there was no consistent effect of intelligence on the impact of summer vacation. A single test of gender as a moderating factor revealed no difference, while a single test of students’ socioeconomic status suggested that summer vacation led to reading and vocabulary gains for students of higher socioeconomic status but losses for those of lower socioeconomic status” (Cooper et al., 1996, p. 241).

The results of the meta-analysis of the studies conducted after 1975 indicated that at best, students demonstrated no academic growth over the summer. At worst, they lost one month of grade-level equivalent skills relative to national norms. The authors expressed concern about the variability of the summer intervals that were included in the study. In many cases, students were not tested right at the end of the school year nor right at the beginning of the next year. This meant that additional instruction had occurred during the time that was called “summer vacation”. They felt that the effect of summer vacation would likely have been more detrimental if it had been measured from the day school dismissed to the day students returned.

Cooper et al. (1996) further examined the research studies related to the effects of summer vacation on separate subject areas. The researchers found that summer loss was more dramatic for math-related subject areas than for reading or language. In particular, the
areas of math computation and spelling showed larger effects than any other subject areas. This negative impact was evident in terms of both relative loss and absolute loss. These computational and spelling losses were seen in both the pre-1975 and the post-1975 studies.

Cooper et al. (1996) also examined their data for influences on other student differences. The researchers found no evidence to suggest that summer break had an effect on student intelligence. Their comparisons of family income revealed that there was no differential effect of vacation on the mathematics skills of middle- and lower-class students, but they found that middle-class children showed significantly greater summer gains in reading and language achievement than lower-income students. Also, middle-class students showed a nonsignificant gain in grade-level equivalent reading scores while lower-class students showed a significant loss.

Cooper et al. (1996) reported that neither student gender nor student race appeared to have a moderating influence on the effect of summer vacation. They did find a linear influence of grade level on the effect of vacation. “On average, first and second graders showed nonsignificant gains in achievement over summer relative to national norms, while students in fourth grade and beyond showed significant losses, some of which were quite dramatic” (Cooper et al., p. 263).

Cooper et al. (1996) had some interesting and relevant explanations for the results of their review. Regarding the results that math skills were more affected by summer vacation than reading and language skills, the researchers theorized that students had more opportunity for practice in reading and language at home during the summer while
mathematics learning was more restricted to the formal school setting. They felt that perhaps the differential effect in both math computation and spelling skills resulted from the fact that these skills involved the acquisition of factual and procedural knowledge, whereas other skill areas were more conceptually based. "Cognitive psychologists suggest that factual and procedural learning requires extensive practice, while conceptual learning requires a lot of experience, but not necessarily practice. Thus, the relative lack of opportunity to practice computation and spelling over summer vacation may mean that these facts and procedural skills are most susceptible to decay" (Cooper et al., p. 260).

The authors speculated further that students might forget science facts over the summer but retain knowledge of science concepts. They also felt that foreign language vocabulary would be lost and that the summer break would be especially detrimental to the speaking skills of second language students.

Cooper et al. (1996) suggested directions for further study on the issue of lack of instruction and learning loss. They expressed an interest in more studies conducted in both the early grades and in high school since no study had examined the effect of summer break on students beyond the eighth grade. They thought it would be important to examine how students from families with different income levels spend their summer vacation, suggesting that students from middle-income families may have more "educational" opportunities during the summer. Also, the researchers were interested in the "pure" effect of summer vacation that could be determined only by using test dates that more accurately captured the vacation interval, i.e. from the very last day of instruction to the very first day of instruction. Like many educators and psychologists, they were interested in the broader
question of how much time can pass between lessons and tests before there is an overall negative influence on the instructional program.

Many of these same concerns have been addressed by teachers themselves. Mikulecky (1990) worked with at-risk students in a program that tried to maintain student achievement in math and language arts during the summer vacation. He concurred that students in low-income groups rarely practiced reading enough in school to fully master it and had little opportunity to practice their minimal reading skills at home during the summer.

Mikulecky's (1990) report echoed the concerns of many foreign language teachers that most American students have the opportunity to practice their language skills only in the classroom and that a long break before instruction is resumed could create great skill loss. It is important to consider that language learning is a process of skill development that is dependent on both factual and procedural knowledge. Cooper et al. (1996) noted that such learning was the most susceptible to decay, and they felt that learning loss could manifest itself in the areas of foreign language vocabulary and speaking skills.

Foreign Language Attrition

Most research that examined the effect of non-instructional intervals on learning focused on general subject area skills, primarily mathematics and language arts (in the primary language). However, there has been a growing body of research on maintenance and loss of language skills. De Bot & Weltens (1995, p. 151) defined this language attrition as “the loss of language skills in individuals over time”. They felt that the study of language loss had important implications for three primary areas: (a) to increase our

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understanding of human memory and language change in individuals, (b) to demonstrate relations and correspondences between the processes of language acquisition and loss, and (c) to provide a framework for language planning and language teaching policy. These researchers felt that understanding language loss would help foreign language teachers define the levels of competence expected and accepted for certain levels of study and to find ways to assess and remedy foreign language loss as a result of non-use.

The authors pointed out that information gone from the memory is not necessarily lost. It has become inaccessible due to a number of factors, and it may be retrievable if the right cues are used. They felt that relearning was much easier and quicker than initial learning.

They concluded with a list of suggestions on how to maintain foreign language skills so that nothing is actually lost from the memory. These included: (a) using the language regularly, particularly the speaking skills, (b) choosing reinforcement activities that are enjoyable and interesting, (c) making effective use of time, and (d) finding time to use the language whenever possible.

While language acquisition has long been a topic of research, most studies that focus on language loss have occurred during the last 15 years. Bahrick (1984) reported the results of a study of language attrition where subjects had been away from second language learning anywhere from 1 month to almost 50 years. He concluded that: (a) much content survived after 50 years; (b) course grades were valid predictors of performance for several decades following training; (c) little permanent content was left if a student had taken only one course in the language; (d) the larger the number of courses taken, the greater the
chance that a larger percentage would be remembered. In other words, the amount of learning loss was relatively constant, but it became a progressively smaller percentage of total learning with higher levels of training; and (e) attrition affected recall vocabulary (where the student had to actually produce the word) more than it did recognition vocabulary (where the student had to simply recognize the word). The author recognized an important limitation of this study in that it addressed attrition only in the skills of reading comprehension, syntax, and vocabulary. The study offered no information about the attrition of oral comprehension, fluency, etc. This is important to current day foreign language teachers because the proficiency movement encourages equal emphasis on the skills of reading, writing, speaking, listening, and culture.

Three other studies have addressed the idea of language retrieval (recall) versus language recognition. Weltens and Grendel (1990) found that subjects were still able to retrieve vocabulary after a hiatus of two years, but that it took more time. A 1991 study by Schils and Weltens corroborated this finding. Gonzo and Saltarelli (1983) found that vocabulary was lost fairly easily and that retrieval was more affected than recognition. This confirmed a previous hypothesis by Andersen (1982) that active vocabulary was more easily lost than passive vocabulary.

In 1989, Weltens conducted a study of loss of French competence by speakers of Dutch. He tested the receptive skills of sounds, grammar, and vocabulary. His results corroborated the findings of Bahrick (1984) that attrition is independent of level of training (number of years studied). This contradicts the classical psychological theory on forgetting which predicts that forgetting is proportional to the total amount of knowledge.
(Ebbinghaus 1884, as cited in de Bot & Weltens, 1995). Weltens (1989) offered some possible explanations for this discrepancy:

1. Perhaps students who reach a certain level of language study have an "immunity against forgetting". This supports a hypothesis by Pan and Berko-Gleason (1986) that once a certain amount of language has been acquired, loss is less likely.

2. Weltens tested only the receptive skill (reading and listening) in language learning. Perhaps the productive skills (writing and speaking) are more easily lost than the receptive skills.

3. It was very difficult to define the interval during which subjects had no exposure to the second language. Weltens (1989) was not always able to determine if there had been any contact with the second language whatsoever during the so-called period of disuse.

**Constructing Tests to Assess Language Retention**

Relevant to this study was a 1984 article by Abdabou that addressed achievement testing and foreign language teaching. He discussed the difference between achievement or diagnostic tests that were used to assess achievement or current performance in the second language and proficiency and aptitude tests that were designed to predict future performance in the language. He felt that tests could be used as tools for increasing the retention and transfer of classroom learning. The retention of skills and subject matter would more likely remain longer and have greater transfer value if tests were oriented toward the evaluation of learning at the understanding, application, and interpretation levels. He urged test makers to de-emphasize the use of recognition and simple recall of
isolated factual details and to construct tests that favored the use of comprehension, interpretation, application, analysis, synthesis, and evaluation. He felt that the use of items that could be answered on the basis of rote memory was counterproductive to long-term retention and to the transfer of learning.

Discussion of the Research on Non-Instructional Time and Learning Loss

Foreign language learning is a skill-based task that requires frequent practice and rehearsal (DeBot & Weltens, 1995). Since there are relatively few opportunities in our American society to practice foreign language skills beyond the classroom, opportunities within the classroom must be maximized and extended. Studies on memory and retention (Buzan, 1991) described elsewhere in this literature review noted that timely review was critical to retention of new material. This would be an important positive attribute for foreign language classes that met on a daily basis.

Studies by Buzan (1991) demonstrated that the mind reaches a saturation point beyond which it has difficulty recalling new information. This must be a consideration in planning for learning on an extended block schedule where classes meet less frequently but for longer periods of time. When a teacher is given a set curriculum to teach that has a certain number of critical points to be covered, it becomes important to assess just how much new material a student can absorb when learning under such a schedule.

However, other studies made a solid case for providing students with opportunities to make connections by probing new material in depth which should be able to be accomplished more effectively during a longer class period (Bahrick, 1984; DeBot & Weltens, 1995; Prawat, 1989). Rather than receiving new material in fragmented pieces,
students could learn by total concepts. In one class period, they had time to see the individual components of learning and how they combined to create a larger concept. Consequently, teachers did not need to rely on so many shorter class periods to present instructional ideas.

Depending on the point of view taken, a case could be made for the effective use of all of the kinds of schedules under scrutiny in this study. This very issue has created vast debate of the effectiveness of block scheduling on foreign language learning.

**High School Scheduling Practices and Foreign Language Learning**

The traditional school calendar has existed in the United States since the late 1850's. This artificial September to June configuration was shaped primarily by two factors: (a) the need for children to help on farms during the summer and (b) the uncomfortable summer heat in most parts of the country (Copple, Kane, Levin, & Cohen, 1992). The September to June calendar has remained in effect as a relatively unchallenged convention for the last 125 years. However, while the calendar remained unchanged, American life changed dramatically with the influx of new populations and a rapid advancement in scientific knowledge, industrial development, and technology.

As long as the United States was perceived to be the leader in world education, industry and politics, the need for any educational policy changes related to instructional time were not apparent. However, with increased international communications and global competition in the world marketplace, it has become apparent that American students are no longer number one in academic achievement.
During the last decade, differences in achievement levels among students have forced policy makers to examine more closely the public education systems across the world. This research has determined that American school children go to school for substantially less time than students in most other industrialized countries. This became particularly evident in comparing the test results of American children with those in countries with the highest test scores. American students lagged behind their counterparts in achievement scores in most subject areas, and educators began to question whether this low performance was related to time spent in school (Berliner, 1993; Berliner & Biddle, 1997; Bracey, 1992, 1993; Carson, Huelskamp, & Woodall, 1993; Copple, Kane, Levin, & Cohen, 1992).

As a result of this interest in instructional time and learning, a different organizational format has been implemented in many high schools in the United States — the block schedule. The traditional high school schedule, based on the Carnegie Standard where each major subject is allotted 120 hours per year, originated in the early twentieth century (Edwards, 1995; Pisapia & Westfall, 1997a). Under the influence of industrialists such as Frederick W. Taylor who studied scientific management, a model for instruction was created that tried to put education in the same mold as industry (Canady & Rettig, 1995). “Learning was a form of production in which teachers were expected to create a quantifiable product in a given amount of time” (Kruse & Kruse, 1995, p. 2). The Carnegie Unit became a convenient, measurable way to gauge academic progress across the country, and, “to this day, this bookkeeping device is the basis on which the school day, ... indeed the entire curriculum is organized” (Boyer, 1983, p. 60).
Industry has evolved over time, but the American education system has been slow to transform to keep pace with changes and advancements in American life. Some proponents of educational reform felt that a restructured school day would lead to more productive instruction and learning. Additionally, it would dissolve the isolation among teachers that occurred as each teacher was “locked” in a classroom for much of the day with little opportunity to interact with fellow faculty members (Kruse & Kruse, 1995).

Benefits of Block Scheduling

Most benefits of block scheduling address the school as a whole, not just instruction. Even though flexible scheduling has existed since the 1970's, it is too new in most schools to measure its long-term success, and the early results are mixed (de Lopez, 1996; Jones, 1992; Pisapia & Westfall, 1997a). In reviewing the literature, there are comparatively few studies that address actual student achievement and learning as a benefit of this reorganized use of time. Dr. Thomas Shortt (personal communication, November 25, 1996) of the Virginia State Department of Education emphasized, however, that all of the indicators used to assess block scheduling ultimately affect student achievement either directly or indirectly.

Joseph M. Carroll (1994a) began the most recent revival of flexible scheduling in 1989 when he introduced the first pilot of his “Copernican Plan” to the Masconomet Regional School District in Massachusetts. In the early 1990's, a team of objective evaluators from Harvard University was asked to evaluate the program. The Harvard team worked from questionnaires given to parents, students, and teachers as well as from baseline data gathered from the eight high schools on the Copernican Plan. The team
compared these data with data collected from the same schools prior to the implementation of the Copernican Plan. The Harvard team then developed a total of 32 comparisons between the two sets of data. The Copernican Plan outperformed on 27 comparisons and the Carnegie Standard was superior on 5.

In Carroll's report, however, these 32 comparisons were never clearly delineated, the credentials for the "outstanding evaluation team" were not listed, and the baseline criteria that were used were not defined. Also, the fact that students who attended one of the schools that used the Copernican Plan volunteered to go there indicated that the student body may not be representative of all high school students.

However, many of the reported benefits of the Copernican Plan have been documented by other studies (Buckman, King, & Ryan, 1995; Canady & Rettig, 1995; Edwards, 1995). The following indicators have been generally viewed as benefits to the full school program in schools where a block schedule was in effect: (a) improved attendance rate; (b) improved student grades; (c) lower drop out rate; (d) higher graduation rate; (e) fewer discipline referrals; (f) reduced stress because of fewer classes and fewer students each day; (g) better end-of-course performance; (h) increased number of course offerings; (i) reduced class size; and (j) more time — to engage students in the learning process, appeal to a variety of learning styles, use a variety of instructional methods, teach the curriculum in depth, integrate technology into instruction, work individually with students, and plan with colleagues (Barry & Kelley, 1997; Boarman and Kirkpatrick, 1995; Buckman, King, & Ryan, 1993; Canady & Rettig, 1995; Carroll, J. M., 1994a, 1994b; Edwards, 1995; Eineder & Bishop, 1997; Fairfax County (VA) Public Schools, 1997;
Guskey & Kifer, 1995; Hurley, 1997a, 1997b; Irmsher, 1996; Kramer, 1997a; North Carolina Department of Public Instruction, 1996b; Pisapia, 1997a, 1997b, 1997c; Pisapia & Westfall, 1997a, 1997b, 1997c; Reid, 1996; Reid, Hierck, & Veregin, 1994; Rettig & Canady, 1996; Schoenstein, 1995; Shortt, 1997; Shortt & Thayer, 1995; Spencer & Lowe, 1994).

Some of the benefits listed above are discussed further below:

**Average daily attendance rate.** Attendance was often used as a measure of the success of block scheduling because obviously, if a student was not in school, he or she would not benefit from instruction (Eineder & Bishop, 1997; Sadowski, 1996; Shortt, 1997). In a study conducted in two Orlando, FL, high schools, Buckman, King, and Ryan (1995) found that after one semester on a block schedule, the percentage of daily attendance among students had increased. However, a further longitudinal study would help to validate the results reported in these schools.

At Wasson High School in Colorado Springs, CO, the average daily attendance rate had increased from 91.7% to 93.9% during the five years that the school had been using a block schedule (Schoenstein, 1995).

In the Harvard evaluation of the Copernican Plan in Massachusetts, the impact of block scheduling on attendance “was not spectacular, but it was positive, with four schools showing improved attendance, two showing declines, and one showing no change” (Carroll, 1994a, p. 110). The report of this study would have been greatly improved if there had been more precise statistics and data reported for each individual school, perhaps accompanied by pertinent demographic data.
In a survey of 12 schools using a variety of scheduling options, Pisapia (1997a) and Pisapia and Westfall (1997a) reported that there was no significant difference in the attendance rates among students who attended schools on the various schedules. Interviews with students revealed that they found it easier to skip school when using an alternating day schedule because more time elapsed before they might be caught (two days instead of one). However many students also stated that they did not like to miss school because they missed too much work.

**Students with improved grades or on the honor roll.** Research on block scheduling often cited improved grades or honor roll status as a benefit of block scheduling (Shortt, 1997). In the Carroll (1994a) study among seven schools, the schools' increase in academic performance ranged from 0% to 46%, with a median increase of 18%. Academic performance was defined as grades students earned. Again, precise data for each individual school would have improved this study.

In a study that included 1100 students at Orange County High School in Virginia, Edwards (1995) reported that the percentage of students earning A's as a final grade rose from 21% on a traditional schedule to 28% on a 4 x 4 schedule. However, a similar increase in failures also occurred, rising from 9% to 12%. This study measured an increase over the period of only one year on a block schedule, and a further longitudinal study would improve the reliability of these data. There was concern, also, that using classroom grades as a measure of success was unreliable due to the variables of teacher subjectivity, maturation of the students, demands of individual courses, etc.
Schoenstein’s (1995) study at Wasson High School indicated an increase in the percentage of students on honor roll from 20.8% to 26.5% in a five-year period. However, there was no indication given of what grades were required to achieve honor roll status. Also, these data did not indicate the kinds of classes (academic vs electives) where the grade increases occurred. Again, confounding variables could play a role in invalidating the results of this study.

Schoenstein’s study also showed that the school’s failure rate declined. In 1990, 31% of the students had failed at least one class. By 1995, after five years on the block, the failure rate had dropped to 22%, with a five-year average of 25%. Several studies (Canady & Rettig, 1995; de Lopez, 1996; R. Schoenstein, personal communication, June 13, 1996), however, agreed that while block scheduling encouraged an in-depth study of information, the decreased total minutes spent in the class upon completion necessitated that less breadth of information be taught. This fact must be considered in examining a school’s failure rate.

Pisapia (1997a) and Pisapia and Westfall (1997a) reported that student achievement as reflected by teacher grades improved significantly more for students on the 4 x 4 block schedule than for those on the alternating day schedule. Both block schedules, however, produced higher student grades and higher grade point averages than the traditional daily schedule. They attributed this increase to more students enrolling in performing arts classes, which presumably were easier, because they had more room in their schedules when they moved to alternative scheduling.
It should be noted here that studies related to student achievement focused on the core courses of English, science, mathematics, and social studies and did not produce any data related to foreign language learning.

**Drop-out rate and graduation rate.** Some schools have documented a decrease in the number of drop-outs. This occurred because the block schedule could be flexible enough to accommodate the needs of students who had other priorities in their lives. For example, students who needed to work to support children could conceivably have a schedule which allowed them to attend school either in the morning only or on an alternating day basis. They could take their required courses in school and still have time to work (Shortt, 1997).

In a study at Philo High School (OH), Eineder and Bishop (1997) found that the drop-out rate decreased from 4.6% to 4% when the school changed from a traditional schedule to a block schedule.

This same concept applied to at-risk students who needed only 2 or 3 classes to graduate. They could take the necessary classes and still be able to participate in other programs that addressed their specific needs. In order for this flexibility to work, however, school administrators must be willing to view such alternatives as a way to save students who might otherwise be lost in the system (Shortt, 1997).

However this flexibility could work in a negative manner as well. Many high school seniors already had sufficient credits to graduate when they entered the 12th grade. They needed to stay in school only to take required courses in English and government. Educators must consider such scenarios in developing sound policy before moving to block scheduling. Otherwise, the movement to increase instructional time will have failed
as students try to satisfy only minimum requirements and leave school early to work or pursue leisure activities (Shortt, 1997).

**Discipline referrals.** Fewer class changes during the day meant that there was less daily opportunity for students to be interacting in an unsupervised environment. Students were in classes during a larger proportion of the day and presumably teachers had better disciplinary control. Many schools have documented a decrease in administrative disciplinary referrals after they made a change to block scheduling (Shortt, 1997). Eineder and Bishop (1997) reported a 40% reduction in the number of student fights at Philo High School (OH) after the school had changed to a block schedule.

**Reduced stress.** Schools also report less stress for both students and teachers who worked on a block schedule (Eineder & Bishop, 1997; Fairfax County (VA) Public Schools, 1997; Hurley, 1997a, 1997b; Shortt, 1997). Since only half the classes met on any given day, students and teachers prepared daily for only half of their class load. Also, student contact with the personalities and expectations of 6 or 7 different teachers was reduced to only 3 or 4 per day, so students and teachers both were able to settle into a calmer routine.

**End-of-course test performance.** There have been few large scale studies done to compare end-of-course test results from schools that changed from a non-blocked schedule to a block schedule. The most recent and extensive study for which data were available was one conducted by the North Carolina Department of Public Instruction (1996a) in which it compared the results of 10 end-of-course tests from 1993 to 1995 as schools moved from a non-blocked schedule to a block schedule. The tests were for the subjects of English,
Algebra I, Algebra II, Geometry, U.S. History, Economics and Legal Political Systems, Biology, Chemistry, Physics, and Physical Science. The study included 371 schools with some combination of grades 9, 10, 11, and/or 12. The authors acknowledged that the scores did not belong to the same cohort of students, but they felt that "performance of students in a group of schools for the state as a whole should be comparatively steady across years" (North Carolina Department of Public Instruction, 1996a, p. 2). They also noted that their study did not discriminate between schools whose block schedule was an alternating day and those who used the 4 x 4.

The end-of-year test scores across the 3 years were converted to a common scale (T-score) for meaningful comparison because some tests and types of scores had changed over the years. In the data analysis, the mean T-scores for block scheduled and non-block scheduled schools were compared. Then another T-score comparison was done after the data had been adjusted for parent education level and homework time.

In the unadjusted comparison, "for the group of schools first blocked in 1992-93 ..., the 1995 mean T-scores of all subjects except physics were higher than the non-blocked school group. . . . For the schools first blocked in 1993-94 . . . , the 1995 mean T-scores of all subjects except Biology and Geometry were higher than the [non-blocked] group. For the schools first blocked in 1994-95 . . . , the 1995 mean T-scores of half of the ten subjects were higher than the [non-blocked] group. However, none of the differences were statistically significant" (North Carolina Department of Public Instruction, 1996a, p. 3 ) with alpha at .05 or .01.
After the scores had been adjusted for parent education level and homework time, the mean scores for the 1992-93 group were higher in all subjects and significantly higher in Geometry and Chemistry. For the 1993-94 group, the scores were higher in all subjects except Chemistry. And for the 1994-95 group, the mean scores were higher in all 10 subjects, with a significant difference in English, Algebra I, Economics and Legal Political Systems, Biology, U.S. History, and Geometry.

The authors of the report concluded that:

(1) Students in block scheduled schools had end-of-course test scores at least equal to students in non-blocked schools;

(2) After the scores were adjusted, block scheduled schools showed significantly higher 1995 end-of-course scores than non-blocked schools in almost all major subjects;

(3) Students completed less homework in most block scheduled schools; and

(4) The students in schools with block scheduling tended to come from families where the parents has a lower level of parent education (North Carolina Department of Public Instruction, 1996a).

With respect to the data about homework on block scheduling, the authors further noted that “effectively using the 90 minute class period and completing more homework in blocked schools may result in even better performance” (North Carolina Department of Public Instruction, 1996a, p. 4).

An analysis of this report by Michael Rettig (personal communication, January 8, 1997) noted that the study suggested that “at the very least, block scheduling didn’t hurt student achievement; at best blocked schools . . . seem to outperform non-blocked schools when controls are applied to adjust scores for the differences in student population”.

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The North Carolina Department of Public Instruction (1996a) warned that "broad generalizations about the impact of block scheduling should not be made from these data at present" (p. 4). It is also important to note here that foreign languages were not included in this study.

Block Scheduling and Foreign Language Classes

While block scheduling may produce "organizational" benefits for a school as a whole, foreign language teachers have been among the most vocal opponents of block scheduling in surveys and other qualitative studies (Boarman & Kirkpatrick, 1995; de Lopez, 1996; Fairfax County (VA) Public Schools, 1997; Guskey & Kifer, 1995; Hurley, 1997b; Shortt & Thayer, 1995, 1997). They have expressed two major concerns about the 4 x 4 schedule: a) the quantity of information that must be mastered in a short time and b) the learning gap between courses (de Lopez, 1996; Hurley, 1997b; Sadowski, 1996; Shortt & Thayer, 1997). For example, a student who completed French I first semester of one year could wait an entire year (or longer) before having the opportunity to continue in the next level. Espitia (1998) concurred that teaching on the 4x4 semester block schedule was very different from teaching on the alternating day schedule. "There is a difference between the two formats, even if it is somewhat psychological in nature. Meeting with students every other day over the course of an academic school year gives the sense of time. On the other hand, meeting with students on a day-to-day basis over a semester, if not structured appropriately, tends to leave both teacher and students gasping for breath" (Espitia, 1998, p. 45).
Only one statistical study related directly to foreign language instruction on the block was located. In 1997, Lapkin, Harley, and Hart published the results of a study conducted at a middle school in the Carleton, Ontario, Canada, school district. The study investigated the effects of two alternative scheduling models on student performance in French. One teacher in the school taught three seventh grade French classes, one each of three different models. The first was the traditional model of 40 minutes of instruction per day for a period of 10 months. The remaining two were called compact models: (a) a half day of instruction over a ten-week period (the half-day model), and (b) 80 minutes of instruction per day for five months (80-minutes model).

The students in each model were administered a pre-test developed by the Ontario Institute for Studies in Education (OISE) Modern Language Centre staff. The test assessed performance in the four skills of listening, speaking, reading, and writing. The same test was administered as a post-test at the end of the study. The students were also tested at the beginning of their eighth grade year using a test referenced to the French curriculum materials used in the seventh grade. Results on the Canadian Achievement Test (CAT) for English language literacy skills were used as covariates in the study.

Results of the study revealed that there was no significant statistical difference in the performance of any of the groups in the skills of listening and speaking. In reading comprehension, the half-day and 80-minute classes performed significantly better than the 40 minute comparison group. On the writing test, the half-day class also scored significantly better than the 40 minute class.
When the criterion-referenced test was administered at the beginning of the students' eighth grade year, the students had been away from their study of French for varying amounts of time. The half-day group had not studied French for about nine months while for the other two groups, about three months had passed since their last study of French. The only statistical difference in scores in the follow-up study appeared in the skill of writing where the half-day group obtained significantly higher scores than the 40 minute per day group. No other differences appeared for any group in listening, reading, or writing. No test in speaking was administered as part of the follow-up study.

A student survey that accompanied the testing revealed that students felt that the longer periods made speaking and writing in French easier. While this was true for the half-day group, it is at odds with the test results in speaking for all groups and in writing for the 80-minute group. The student survey also indicated that they did not perceive any differences in their skills in listening and reading. However, the test results showed that students on the longer periods performed better in reading comprehension than those in the 40 minute per day group.

The survey yielded other information of interest. About 75% of the students in both compact models agreed that it was easier to get to know the teacher, but not their classmates, during the longer classes. Majorities of both groups also thought that they remembered more of what they learned from day to day than in the regular 40 minute periods.

The surveys also yielded criticisms of the longer class periods. "Two-thirds of students in the half-day class and over a third of those in the 80-minute class reported that
they got 'too tired' in the longer French periods. Almost 60 percent of the half-day class and nearly half of the 80-minute class indicated that it was harder to pay attention in the longer French periods" (Lapkin, et al., 1997, p. 6).

While only one quantitative study on foreign languages and the block schedule was uncovered, the North Carolina Department of Public Instruction (1996b) has produced an extensive qualitative study which outlined perceived advantages and disadvantages of the block to foreign language instruction. Among the perceived benefits of block scheduling for foreign languages were: (a) more opportunities to offer and take advanced courses because of more class periods, and (b) more time for students to internalize the language. The disadvantages of foreign language instruction on the block included: (a) less total class time and therefore less time to cover material; (b) longer time needed to prepare for classes; (c) difficulties in placing transfer students; (d) difficulties in making up work due to absences; (e) difficulties in scheduling Advanced Placement courses; (f) more courses and/or levels to prepare for over the course of the year; (g) in an alternating day block, teachers must still teach 150 students over a two-day period, thus paperwork is not decreased; (h) in an alternating day block, students must still meet 6 or 7 different teachers in different classes and do the accompanying work; (i) more extensive homework assignments for students; (j) student difficulties in paying attention during the longer periods; and (k) student difficulties in keeping up with the faster pace that is inherent to block scheduling.

Of greatest concern to foreign language teachers in North Carolina (1996b) were: (a) the sequencing for foreign language courses so that language study would continue
without long time lapses; (b) the availability of courses, especially at the advanced levels where students were frequently enrolled in advanced courses in other disciplines that would compete with the same limited number of time slots or when students were preparing to take Advanced Placement tests at the end of their senior year; and (c) the development of language proficiency which required a long, uninterrupted sequence of language study which block scheduling did not always support.

While the North Carolina (1996b) study provided valuable anecdotal information about teaching and learning foreign languages on the block, it did not provide any data about actual student performance in foreign language classes. Authors of several quantitative studies did mention foreign language instruction in their reports. Reid, Hierck, and Veregin (1994) conducted a study in School District 7, Nelson, British Columbia, where they collected data from 650 students in grades 10 - 12, 37 teachers, support staff, and three administrators. They used these data to make a comparison between the 1991-92 school year (non-block) with the 1992-93 school year (block). Among tenth graders, the failure rate decreased in math, English and social studies but increased by 6% in French and 13 % in science. Among eleventh graders, the failure rate decreased in every subject except biology where it increased by 9%. Among twelfth graders, the failure rate increased in history, English, and geography. It decreased in physics (11%), communications (6%), math (36%) and biology (23%). Among all students, the average final grades improved in six of the nine courses, and the number of students achieving honor roll status based on a GPA of 3.0 or better increased by 50%. The projected graduation rate increased from 70 % to 90 %. This study would have been
improved if the complete data had been given for both the decrease and increase in failure rates for all subjects.

In this same study, a random survey of 650 students (total school population not stated) indicated a concern that too much material was presented too quickly in all classes. The surveys collected from all 37 teachers expressed a positive feeling at the better success rate of their students but also a strong concern about the intensity of the system and the retention of material.

Boarman and Kirkpatrick (1995) performed a related experiment at Eleanor Roosevelt High School in Greenbelt, MD. One hundred and twenty academically talented students were assigned to one double period in each semester in one of the following subjects: English, mathematics, science, or social studies. The course that was not taken first semester replaced the double period course during the second semester. At the end of the school year, when the final grades in the double period classes were compared with those resulting from single period classes, the double period classes showed improvement. Also, a year later, the students who had taken the double period math and chemistry classes performed as well or better on the advanced placement chemistry and pre-calculus tests as those who had taken the same courses in a single period. While this study provided anecdotal data, it did not give specific results, nor did it describe the control group of students against whom the experimental students were compared.

Working with these data, the authors proposed that the entire school day be restructured into double periods of fewer courses per semester without sacrificing the quality of education and providing more time for longer activities that would help students
develop problem solving and critical thinking skills. Foreign language teachers at the school, however, expressed concern about the long breaks between levels of study that would occur if such a schedule were adopted. A follow-up to this article would be informative in explaining whether or not the school did adopt such a schedule and in outlining the results from foreign language classes.

Personal communication with R. Schoenstein (June 13, 1996) revealed that foreign language teachers at Wasson H.S. (CO) had similar concerns prior to beginning a 4 x 4 schedule in 1991. They recommended (but did not require) that students take their foreign language courses in consecutive semesters. Most students did follow this plan. However, due to scheduling difficulties, some students were forced to incur gaps in their language study, generally with little or no adverse effect. In another source, Schoenstein (as cited in de Lopez, 1996, p. 13) recommended “that curriculum planners identify exactly where gaps cause[d] problems and not allow them to be scheduled. He [was] adamant in stating that students should take the first two years of language instruction in back-to-back semesters.” Additionally, he felt that it was advantageous for the third and fourth years of a language to be studied in consecutive semesters.

Guskey and Kifer (1995) evaluated a block schedule that was in effect at Governor Thomas Johnson High School in Frederick, MD. Their results indicated that student performance on three standardized tests used to measure achievement has remained the same since moving from a traditional schedule to a block schedule. They did, however, acknowledge a concern about sequential courses that may suffer gaps in learning. They believed that additional procedures needed to be established to gather evidence on the
effects of learning gaps for sequential courses. Shortt and Thayer (1995) concurred with
this belief in their assessment of past, present, and future use of block scheduling.

Hamdy's (1996) doctoral dissertation on the impact of block scheduling on
academic achievement and the perceptions of stakeholders indicated that students on a
traditional schedule outperformed those on both forms of block schedule in two
standardized tests given in the state of Florida: the High School Competency Test and the
Florida Writes test. Survey results from administrators indicated that they perceived
mathematics and foreign language teachers to be the least happy with the block schedule.

Music teachers have also expressed concerns similar to those of foreign language
There was a concern about how to keep students in the program with a semester’s hiatus
occurring each year. Also, teachers felt that there was a drop in a student’s skill level if he
took a performance course only one semester a year and that he could not play at the same
level of difficulty as he could play if he had studied both semesters. Hoffinan (1995)
proposed a scheduling compromise, with three days per week on a regular schedule and
two on an extended block schedule. Since learning a foreign language is essentially a skill
and practice is essential, some of the concerns voiced by music teachers would certainly
apply in the case of foreign language classes.

Three studies related to mathematics are relevant to this topic because the study of
mathematics requires a sequential study similar to that needed for foreign language study.
Schroth and Dixon (1995) studied two hypotheses relating to block scheduling and student
achievement in seventh-grade mathematics classes. They found that neither increased time
spent in math class nor longer uninterrupted time in math class increased student achievement in math classes.

Kramer's (1997b) study voiced many concerns of math teachers that were also of interest to foreign language teachers. He found that teachers felt that they were not able to cover their content as effectively. However, this situation was sometimes balanced by the fact that students were able to take more math classes because the block schedule provided more periods in the day. This presumed, however, that students would choose to continue to study the subject longer if given the opportunity.

Teachers further worried that learning was limited by: (a) lack of student attention during the longer class periods, (b) gaps that occurred in sequential instruction, and (c) the completion of less homework. Kramer's (1997b) research revealed that classes taught on a block schedule should have the same or a little more time available for instruction. His study did not support the hypothesis that student engagement rates would be lower under a block schedule, and he found that the results on homework studies related to block scheduling were inconclusive. His work revealed that "students with an extra semester time gap did have more difficulty recalling recently learned concepts, but they recovered quickly during the subsequent math course. Over the long term, there were no negative effects" (Kramer, 1997b, p. 77).

Wronkovich, Hess, and Robinson (1997) conducted a study in which they compared student performance on the Ohio colleges Early Math Placement Test between students who had received math instruction in Algebra I, geometry, and Algebra II in a traditional, year-long structure with that of students in an intensified block structure. They
found that “students who study math in a block schedule format are at a disadvantage when competing against students who have studied math under traditional formats” (Wronkovich, et al., 1997, p. 35). The research team of Wronkovich et al. (1997) identified four concerns that surfaced repeatedly among teachers who taught in the 4 x 4 block format: (a) concern over covering all the material; (b) concern over “gaps” in the math learning process; (c) holding the attention of students for 90 minutes; and (d) the need for assimilation time between practice sessions.

All of the preceding studies provide significant information with regard to the concern of teachers of sequential courses, especially foreign languages, that a block system requires too much information to be mastered in too short a time. “Language retention is an area that needs to be researched. In my experience, students were forced to cover some material too quickly. In spite of the different structures and activities used to reinforce and spiral language, some students encountered problems with retention” (Steen as cited in de Lopez, 1996, p. 13).

Davis-Wiley and Cozart (1996) corroborated these findings in a survey of parents and students in high schools in Knox County (TN). Both parents and students expressed concern that too much material was being crammed into too short a period of time and that teachers moved too fast. In particular, they mentioned problems with math, foreign languages, and Advanced Placement courses. Students were worried about remembering material that they had learned so fast and also about the gaps that would occur in the learning. They also felt that they could not cover all the material necessary for Advanced Placement courses and that there was too much homework in AP classes.
This concern about intensity and retention has a basis in studies by Buzan (1991) on memory and recall. He suggested that after 20 to 50 minutes, recall abilities declined and memory-based activities were ineffective. A large degree of second-language learning, especially at the beginning levels, is based on memory and recall, and students do reach a saturation point. The intensity of the courses taught on a block schedule allowed for little time to “digest” the new information. However, if a teacher used a variety of learning activities in the classroom, a large portion of the time could be spent on reinforcement activities.

In personal communication, R. Schoenstein (June 10, 1996) agreed that on a 4 x 4 schedule, teachers are not likely to cover the same amount of material as on a traditional schedule. He reported, however, that foreign language teachers at Wasson H.S. (CO) felt that students truly mastered what they did learn. They felt that in the long run, students were more prepared to advance to the next level of language study because they had time to study topics in greater depth as opposed to the more traditional schedule where the emphasis had been on covering a certain amount of material.

The question of “coverage” is also a factor in preparing students to take national exams, advanced placement exams, and university level placement exams. Typically, these exams test a set of pre-determined criteria based on the quantity of information (number of topics covered) to which a student should have been exposed and presumably that should be mastered. Foreign language teachers who prepared their students for such examinations voiced concern that the decreased time allotted to instruction in the subject and the emphasis on depth rather than breadth predicted poor test performance. “The amount of material taught is less, and so we concentrate on language that can be used and handled
well by students, working with basic language for communication. We lost time for practicing structure *per se* and time to teach grammar. This is a consideration for student performance on national exams and in placement exams at the university level” (Steen as cited in de Lopez, 1996).

An extensive survey of nine high schools in the Fairfax County (VA) Public Schools (1997), corroborated many of the concerns expressed in the previous studies related to foreign language learning. Foreign language teachers felt that the longer instructional period produced by a block schedule helped them to (a) vary their instructional strategies; (b) address the various learning styles of their students; (c) integrate instructional technology; (d) teach the curriculum more in depth; (e) work individually with their students; (f) use a variety of assessment techniques; (g) plan for instruction; (h) meet the needs of special education students; and (i) reduce stress. However, they felt that the shorter period produced by a more traditional schedule was more effective in helping them to (a) teach the required material without lowering standards; (b) helping them to maintain students’ attention; (c) maintain continuity in classroom instruction; and (d) enable students to catch up on their school work after absences.

**Advanced Placement Courses**

Advanced placement courses created concerns in many 4 x 4 blocked schools where a course may be completed during the first semester but the actual advanced placement test is not given until May (Sadowski, 1996). Some schools have resolved this problem by making an advanced placement course a two-credit course that is taken during both semesters. This model doubled the instructional time available in these classes, and the number of students scoring 4's and 5's on the tests increased (Edwards, 1995). This
model also limited the number of courses a student could take during the year. For example, a student who wanted to take advanced placement courses in English, math, science, government, and a foreign language would be forced to choose only four of those courses. However not all schools are able to offer advanced placement courses in all of those areas, so all students may not be faced with such a choice.

A second problem with advanced placement courses occurred when the courses were offered second semester. Since the advanced placements tests are generally offered 4 to 6 weeks before the end of school, on a 4 x 4 second semester schedule, “approximately one-third of the allocated instructional days for the semester are actually used after the assessment” (Shortt & Thayer, 1997, p. 9). Obviously this created problems in covering all of the material to be tested on the advanced placement test.

Discussion of the Research on Block Scheduling and Its Impact on Foreign Language Instruction

The concerns of foreign language teachers about foreign language instruction on the block schedule seem justified. The studies on time and learning indicate that students have more time to practice and assimilate the language in a longer class period (Barry & Kelley, 1997; Boarman and Kirkpatrick, 1995; Buckman, King, & Ryan, 1993; Canady & Rettig, 1995; Carroll, J. M., 1994a, 1994b; Edwards, 1995; Eineder & Bishop, 1997; Fairfax County (VA) Public Schools, 1997; Guskey & Kifer, 1995; Hurley, 1997a, 1997b; Irmsher, 1996; Kramer, 1997a; North Carolina Department of Public Instruction, 1996b; Pisapia, 1997a, 1997b, 1997, c; Pisapia & Westfall, 1997a, 1997b, 1997c; Reid, 1996; Reid, Hierck, & Veregin, 1994; Rettig & Canady, 1996; Schoenstein, 1995; Shortt, 1997; Shortt & Thayer, 1995; Spencer & Lowe, 1994). In an ideal situation, this should mean
that a longer class period would permit students to learn an entire new concept and practice it in a variety of ways, thus appealing to many different learning modes and styles. Teachers and students should be able to maximize their time to practice all four language skills: listening, speaking, reading, and writing. Effectively used, this process should lead to the creation of a longer immersion environment for second language learning.

However, research on memory learning which is the basis for much of beginning language instruction, reveals that the memory has a saturation point beyond which it has difficulty retaining new information (Buzan, 1991). This raises the question of whether or not a beginning student has enough of a foundation in the language to successfully connect new language concepts to what he or she brings initially to the class. Research indicates that beginning language learners rely heavily on memory to master the sounds and sights of a new language (Bower, 1987; Carroll, 1964; Dixon, 1992; Mikkonen & Service, 1985; Nyikos, 1985; Schleppegrell & Oxford, 1988; Service, 1987). If, indeed, the human memory reaches a saturation point as Buzan (1991) suggested, is a longer class period truly productive for a beginning language learner?

Finally, the research on language attrition indicates that a long non-instructional interval can be detrimental to foreign language learning (Cooper et al., 1996). Foreign language teachers have indicated that they feel that daily contact with their students is important to success in language learning. This contact is achieved if students meet on a 6- or 7-period daily schedule, however, the class periods are shorter which may lead to a fragmented presentation of new material and less time to practice in class. The 4 x 4 semester schedule also delivers contact with students, however, in many cases, a student
must endure a lapse of a year or more before he or she can take the next level of the
foreign language. Students who attend school on an alternating day schedule receive the
benefits of a longer class period, however, there is a break of at least 48 hours between
classes before they are able to resume their language practice.

The various scheduling practices used by American high schools today present a
great diversity of time usage and class patterns. There is enough variation that no one
schedule seems to be ideal on all accounts. Educators are still seeking answers to the
question of how the organization of the school day impacts student achievement. To
adequately answer this question as it relates to beginning French students, we must
examine what skills are valued in foreign language learning today and how foreign
language education has evolved over the years in the United States.

Summary of Related Literature

Foreign language teachers appeared to have some legitimate concerns about foreign
language instruction on a block schedule. Current beliefs and practices in foreign language
education in the United States emphasize proficiency in second language learning, with
equal emphasis placed on listening, speaking, reading, and writing in an appropriate
cultural context (American Council, 1986; Met & Galloway, 1992; National Standards,
1996). Other factors that are beginning to impact foreign language education in America
are the diversification of the American population, the expanding use of technology, and
effects of high school restructuring (Met & Galloway, 1991).
The restructuring of time that occurred on a block schedule presented situations that could be both conducive and detrimental to foreign language learning. Several studies on time and learning (Berliner & Fisher, 1984; Bloom, 1968; Carroll, 1963; Harnischfeger & Wiley, 1984; Harris & Yinger, 1976, Smyth, 1984) emphasized that time was a critical factor in learning as were a student’s aptitude and the quality of instruction that he or she received. If all of the factors listed above were equal, time often made the difference in whether or not students mastered a particular skill.

Applying these concepts of time and learning to the idea of second language acquisition would seem to indicate that if students had more time to practice and assimilate the foreign language, they would develop better skills at a faster rate (Barry & Kelley, 1997; Boarman and Kirkpatrick, 1995; Buckman, King, & Ryan, 1993; Canady & Rettig, 1995; Carroll, J. M., 1994a, 1994b; Edwards, 1995; Eineder & Bishop, 1997; Fairfax County (VA) Public Schools, 1997; Guskey & Kifer, 1995; Hurley, 1997a, 1997b; Irmsher, 1996; Kramer, 1997a; North Carolina Department of Public Instruction, 1996b; Pisapia, 1997a, 1997b, 1997 c; Pisapia & Westfall, 1997a, 1997b, 1997c; Reid, 1996; Reid, Hierck, & Veregin, 1994; Rettig & Canady, 1996; Schoenstein, 1995; Shortt, 1997; Shortt & Thayer, 1995; Spencer & Lowe, 1994).

In most alternative schedules, the school day has been restructured so that the class periods are longer but do not meet for as many days. This did produce more time for learning at each class meeting but often resulted in less total time for instruction over the course of the year. However, this “lost” time may be recovered through fewer class changes and less time spent on opening and closing the class (Fairfax County, 1997; North Carolina
The research on memory indicated that shorter periods of learning might be more conducive to language learning, especially in the beginning levels of language instruction where students relied heavily on memory (Bower, 1987; Buzan, 1991; Carroll, 1964; Dixon, 1992; Mikkonen & Service, 1985; Nyikos, 1985; Schleppegrell & Oxford, 1988; Service, 1987). Buzan (1991) felt that memory and recall achieved maximum harmony for a period of only 20 to 50 minutes which could be achieved more effectively in shorter class periods. However, proponents of the longer blocks of instructional time emphasized the importance of implementing a variety of teaching strategies and activities which, if used properly, would effectively break the longer class period into smaller learning segments (Fairfax County, 1997; North Carolina Department of Public Instruction, 1996a, 1996b; Shortt, 1997; Shortt & Thayer, 1995, 1997).

Studies on language attrition and retention indicated that a long non-instructional interval could be detrimental to language retention (Bahrick, 1984; DeBot & Weltens, 1995). Students who did not have an opportunity to practice skill-based learning during non-class time lost facility in those skills. Cooper et al. (1996) specifically cited a concern about the loss of second language speaking skills when there was no opportunity to practice them on a regular basis. Certain block schedules presented exactly this scenario where instruction did not occur on a daily basis (alternating day schedule) or where there were large gaps between levels of language instruction (4 x 4 block schedule).
Some attempt has been made to use homework as an extension of learning that occurred in the classroom and as a way to limit such learning loss, but its success in improving student performance and achievement has not been soundly proven by research. (Cool & Keith, 1991; Cooper, 1994; Copple et al., 1992; Foyle & Bailey, 1988; Keith, 1982; Palardy, 1995; Thomas, 1992). A student’s academic performance was a highly individual matter tied to factors such as age, ability, motivation, and course load (Cool & Keith, 1991; Cooper, 1994). These studies proved that there was a *correlation* between student achievement and homework completion, but they could not prove a *causal* effect.

Further significance was given to the kind of homework assignments that students did. There was support that skill-based learning benefited from assignments that allowed students to practice skills until they became good habits (Cooper, 1989, 1994; Copple et al., 1992; Earle, 1992; Thomas, 1992).

In terms of homework used as an extension of classroom learning, other unresolved issues included the completion of homework (Kelley & Kahle, 1995; Levine & Anesko, 1987) and the use of class time for homework (Fairfax County, 1997). Because so much of the research on homework has relied on self-reports from students and teachers, it was not clear how much homework students actually completed. Just because teachers assigned the homework did not mean that students actually completed it. Thus it was unclear how much impact homework truly had on student performance (Kelly & Kahle, 1995; Levine & Anesko, 1987).

Further complicating the problem was whether or not homework was really outside of class or whether teachers gave time in class for students to do homework, thus
decreasing the actual instructional time. There was some indication that teachers on the longer block periods did give students more time proportionately to work on homework in class because the class periods were too long for meaningful instruction to continue (Fairfax County, 1997).

Some research on second-language acquisition supported the concept that large quantities of comprehensible input in the language would lead to improved language learning (Krashen, 1982, 1982). This input could and should come from many sources and reinforce all the senses (Lado, 1969; Munsel et al., 1988; Olliphant, 1990). With this in mind, students on a block schedule may have more time in class to hear and use the language, because teachers have time within each class period to provide a variety of language learning experiences.

All of the scheduling formats seemed to have both positive features and drawbacks. On the daily schedule, students did have daily contact with the foreign language. However, the short instructional periods of only 45 to 50 minutes often created lessons that were fragmented and did not always allow teachers to use a wide variety of teaching strategies that would appeal to all learners. Students often did not have sufficient time in class to practice their newly-learned skills.

The 4 x 4 schedule did provide the longer class periods, but it also required memory and learning to occur in a very compressed period of time. This meant that there would possibly be less time for reinforcement through reflectivity, homework practice, and other outside activities that might arise once the intensive class had finished. A further problem arose with the scheduling of further language study. Often students were forced to
incur large gaps in their language study from level to level. Advanced Placement tests and other nationally administered tests also presented problems. Traditionally these tests were given near the beginning of May, when approximately 20% of the course content would not yet have been taught on the 4 x 4 schedule (Shortt & Thayer, 1997).

The alternating day block schedule also provided the longer blocks of instructional time, but it also created more opportunity for learning loss to occur because of the on-again, off-again nature of the schedule. Also, while students met only a limited number of classes per day, they must still ultimately prepare for the same number of classes in a week, so the question of outside reinforcement through homework again became an issue. With both block schedules, the total number of hours of instruction was often less than that found in classes conducted on a daily basis. Proponents of the block schedules felt, however, that teachers and students compensated for this loss with fewer class changes and less time spent in opening and closing the class each day.

The block schedule seemed to provide additional instructional opportunities but raised issues in other areas, notably in learning retention and in defying what we know about how the memory processes information for long-term retention. The primary question to be answered in this study, then, is how the three schedules being examined—the 6/7-period day, the alternating day block, and the 4 x 4 block—will impact performance among beginning French students.
Chapter 3: Methodology

Introduction

This study compared end-of-course test performance by French I students who had been instructed on three different scheduling formats: 4 x 4 semester schedule, alternating day schedule, or a 6-/7- period daily schedule. The researcher gathered data in several related areas and administered an end-of-course test which assessed skills in listening, speaking, reading, and writing.

First, teachers were asked to report the total amount of time that their schedules allotted for French I instruction during the course of a year. This information was collected to determine how much time was available on each scheduling format for direct instruction in the subject matter during an academic year.

Next, teachers were asked to estimate how much time they expected their students to spend on homework both in class and outside of class. These data were collected out of interest in determining whether in-class homework might detract from in-class instructional time and whether outside homework might be an extension of learning that was occurring in the classroom.

Each student's Total Reading Scaled Score and Language Scaled Score on the Stanford Achievement Test Series, Ninth Edition 1996 (Stanford 9) were collected and used as covariates to establish pre-existing differences among groups. The Stanford 9 Test Series was required in 1997 for the first time of all eighth grade students as part of the Virginia State Assessment Program. Thus, these test scores were available for most ninth grade students who had attended the eighth grade in a public school in Virginia.
The Stanford 9 reading and language sub-tests were selected as co-variates because they were the most recent measures of achievement in these areas common to students who participated in the study. Thus, the Stanford 9 reading and language sub-tests were the best available indicators of pre-existing language achievement among the students in the sample.

The Stanford 9 reading test assessed skills in several areas including reading vocabulary and reading comprehension. The language test assessed skills in language, spelling, and writing (Stanford Achievement Test Series, 1996). Many of these were the same skills that were assessed on the end-of-course test designed to be used in this research study.

The researcher created an end-of-course French I test based on the Virginia Standards of Learning for French I (1988) which may be referenced in Appendix B. The evolution of the instrument included validation by a panel of French I teachers in Virginia and field testing by end-of-course French I students in Virginia. For the purpose of validation of the instrument, field testing, final testing, and reporting scores, the French I end-of-course test was sub-divided into four sections: listening, reading, writing, and speaking.

Research Questions

The research questions for this study were as follows:

1. Does the time allocated for learning in French I vary according to the schedule on which students are instructed?
2. Does French I student performance vary according to the schedule on which students are instructed (4x4, alternating day, or daily schedule) as measured by scores on end-of-course tests in speaking, writing, listening, and reading?

3. Does the quantity of homework that teachers assign to their French I students vary according to the schedule used (4x4, alternating day, or daily schedule) as described in a self-report instrument from teachers?

**Test Construction and Validation**

**Test Construction**

The researcher constructed four separate skills tests, one each for listening, reading, writing, and speaking. The listening and reading tests consisted of multiple choice questions. For the writing and speaking tests, students were asked to respond to prompts. Descriptions of the tests as well as the validation process are provided below.

**Test Validation**

A panel of experts consisting of five teachers from three different school divisions in Virginia was selected. All experts were licensed to teach French in the Commonwealth of Virginia and had taught French for an average of 17 years in the Commonwealth. These teachers represented all three of the scheduling groups that were being studied.

The panel of experts used a modified Angoff (1971) technique to validate the test instrument. They rated each sub-test separately.

**Listening test.** The researcher constructed a listening test consisting of 54 questions divided into six parts. The types of questions on this test reflected those on a suggested assessment tool that accompanied the Virginia Standards of Learning (SOL) for
French I (1988). The assessment tool itself was not used because it had never been validated by the Commonwealth of Virginia Department of Education. The panel of experts was given the questions, along with the correct answers, a copy of the Virginia SOL's for French I, and a rating sheet. Experts were asked to confirm that the answer given for each question was correct and the only correct answer. They were asked to confirm that each question correlated to the French I SOL's and invited to make comments or suggestions to help strengthen the questions. Finally, they were asked to select the most essential and discriminating questions within each part as related to the Virginia SOL's to help the researcher narrow the field of questions for the field test. Results of their work may be found in Appendix E, Table E1.

In order to obtain sufficient items for the field test, the researcher included items that at least 40% of the panel of experts identified as an essential part of the French I curriculum, as a discriminating test item, and as a correlate to the French I SOL's in Virginia. As a result of the work done by the panel of experts, a listening field test consisting of 42 questions divided into six parts was constructed by the researcher.

**Reading test.** The researcher constructed a reading test consisting of 59 questions divided into two parts: short passages and long passages. The types of questions on this test reflected those on a suggested assessment tool that accompanied the Virginia Standards of Learning (SOL) for French I (1988). The assessment tool itself was not used because it had never been validated by the Commonwealth of Virginia Department of Education. The panel of experts was given the questions, along with the correct answers, a copy of the Virginia Standards of Learning (SOL) for French I, and a rating sheet.
Experts were asked to confirm that the answer given for each question was correct and the only correct answer. They were asked to confirm that each question correlated to the French I SOL’s and invited to make comments or suggestions to help strengthen the questions. Finally, they were asked to select the most essential and discriminating questions within each part as related to the SOL’s to help the researcher narrow the field of questions for the field test. Results of their work may be found in Appendix E, Table E2.

In order to obtain sufficient items for the field test, the researcher included items that at least 80% of the panel of experts identified as an essential part of the French I curriculum, as a discriminating test item, and as a correlate to the French I SOL’s in Virginia. As a result of the work done by the panel of experts, a reading field test consisting of 17 questions divided into two parts was constructed by the researcher.

Writing test. The researcher constructed a writing test consisting of 10 questions divided into three parts: dictation, situation description, and picture description. The types of questions on the end-of-course test for this study reflected those on a suggested assessment tool that accompanied the Virginia Standards of Learning (SOL) for French I (1988). The Virginia assessment tool was not used because it had never been validated by the Commonwealth of Virginia Department of Education. The panel of experts was given the questions, along with a scoring rubric, a copy of the Virginia Standards of Learning (SOL) for French I, and a rating sheet. Experts were asked to confirm that the scoring rubric was appropriate to evaluate writing skills of French I students. They were asked to confirm that each question correlated to the French I SOL’s and invited to make
comments or suggestions to help strengthen the questions. Finally, they were asked to select the most essential and discriminating questions within each part as related to the Virginia SOL's to help the researcher narrow the field of questions for the field test. Results of their work may be found in Appendix E, Table E3.

In order to obtain sufficient items for the field test, the researcher included items that at least 60% of the panel of experts identified as an essential part of the French I curriculum, as a discriminating test item, and as a correlate to the French I SOL’s in Virginia. One exception to this was made in the writing section for Part C, the picture description. Only one picture received the required 60% agreement and the remaining five pictures tied with a 20% agreement from the panel of experts during the validation process. Since it was desirable to have two pictures from which the students could choose for the field test, the researcher selected the picture with 60% agreement as well as a second picture randomly selected from the remaining five to be included in the field test.

As a result of the work done by the panel of experts, a writing field test consisting of 6 questions divided into three parts was constructed by the researcher. The scoring rubrics were modified slightly on the recommendation of the panel. The rubric for the dictation was expanded from four levels to nine levels to provide greater discrimination in grading. The rubric used to score the free-choice writing was expanded from four levels to eight levels to provide greater discrimination in grading. Also, a minimum number of acceptable sentences was added at each level of the rubric.

**Speaking test.** The researcher constructed a speaking test consisting of 14 questions divided into two parts. The types of questions on this test reflected those on a
suggested assessment tool that accompanied the Virginia Standards of Learning (SOL) for French I (1988). The assessment tool itself was not used because it had never been validated by the Commonwealth of Virginia Department of Education. The panel of experts was given the questions, along with the correct answers, a copy of the Virginia Standards of Learning (SOL) for French I, and a rating sheet. Experts were asked to confirm that the scoring rubric was appropriate to evaluate speaking skills of French I students. They were asked to confirm that each question correlated to the French I SOL's and invited to make comments or suggestions to help strengthen the questions. Finally, they were asked to select the most essential and discriminating questions within each part to help the researcher narrow the field of questions for the field test. Results of their work may be found in Appendix E, Table E4.

In order to obtain sufficient items for the field test, the researcher included items that at least 40% of the panel of experts identified as an essential part of the French I curriculum, as a discriminating test item, and as a correlate to the French I SOL's in Virginia. As a result of the work done by the panel of experts, the speaking field test was reduced to 10 questions. The scoring rubric was expanded and modified slightly to ensure that all the information requested in the question was indeed provided.

Field Testing

The information provided by the panel of experts was used to create an instrument that had four sub-sections — one each for listening, reading, writing, and speaking. The test questions were subdivided as follows:
Table 1

Subdivision of Skills Tested in the Field Test

<table>
<thead>
<tr>
<th>Skill Tested</th>
<th>Number of Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listening</td>
<td>42</td>
</tr>
<tr>
<td>Reading</td>
<td>17</td>
</tr>
<tr>
<td>Writing</td>
<td>6</td>
</tr>
<tr>
<td>Speaking</td>
<td>10</td>
</tr>
</tbody>
</table>

Listening and Reading Tests

The tests were administered to 12 end-of-course French I students. After an item analysis for the test questions, some questions were eliminated from the field test to create a final instrument. Questions were eliminated if all students answered them correctly or if no students answered them correctly. Additionally, since the final test would be limited by time, in some cases further questions were eliminated because they were deemed too hard or too easy based on the item analysis. Table E5 in Appendix E depicts the item analysis of questions in the listening and reading sections of the field test.

Part B of the listening field test was eliminated entirely for the final test because most students answered all of the questions correctly. Thus the items had little or no discriminating power. In Part D of the listening test, one item was eliminated because it duplicated information requested in an earlier item. In Part E of the listening section, items 4 (89% correct), 8 (44% correct), and 10 (33% correct) were eliminated because, by comparison to the other questions in that section, they were deemed either too easy or too difficult to remain in the section. The questions that remained in that section were numbers
3 (83% correct), 5 (56% correct), 6 (56% correct), 7 (67% correct), and 9 (50% correct).

The same was true for certain items in the reading section. In Part A of the reading test, items 5 (89% correct) and 7 (6% correct) were eliminated because they were considered too easy or too difficult by comparison to the other questions in that section.

Writing and Speaking Tests

The writing and speaking sections of the test were graded globally using the revised rubric. Additionally, for parts B and C of the writing section, students were asked to write about only one of several choices. For part B of the speaking section, they were asked to speak about two of three choices. Table E6 in Appendix E portrays the global scores for each student on the separate parts of the writing and speaking sub-sections of the test as well as which questions they chose to answer.

Final Instrument Development

As a result of the test validation, the field testing, and the comments made by the panel of experts, a final test instrument was developed. The final test consisted of four sub-tests: one each in listening, reading, writing, and speaking. Table 2 shows how the test questions were subdivided:

<table>
<thead>
<tr>
<th>Skill Tested</th>
<th>Number of Questions/Sections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listening</td>
<td>22 questions</td>
</tr>
<tr>
<td>Reading</td>
<td>15 questions</td>
</tr>
<tr>
<td>Writing</td>
<td>3 sections</td>
</tr>
<tr>
<td>Speaking</td>
<td>3 sections</td>
</tr>
</tbody>
</table>

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Table E7 in Appendix E shows how the instrument evolved from the original validation questions to the field test to the final test.

Test Reliability

Following the administration of the tests, Cronbach’s Alpha was calculated for the objective tests in listening and reading. The values were .357 for the listening test and .482 for the reading test. These results indicated a moderate level of reliability which was to be expected on tests of such short length. No reliability coefficient was calculated for the subjective tests in speaking and writing.

Sample

The researcher worked with the Virginia Department of Education to obtain a listing of all public high schools in the state that offered a French program in grade 9. Combined schools and special programs schools were omitted from the list. Private schools were not included because their students were not required to take the Stanford 9 test, and these test scores would not be available as covariates for the study.

A letter was sent to the foreign language contact person in each of the 134 public school divisions in the state advising them of the study and requesting them to encourage their teachers to participate. The foreign language contact person in one school division requested that the one high school in his school division not be advised of the study. He stated that his school division was aware that the issue of block scheduling was a hot topic. His school division had already made the decision to move to a 4 x 4 block schedule, and they did not wish to re-open the controversy. After that letter was pulled, a letter explaining the study was sent to a French teacher in each of the 276 high schools that remained on the list.
Teachers in those schools were asked to participate and indicated their interest by returning a response card to the researcher. A total of 22 schools had responded 2 weeks after the initial request. Of the 22 schools responding, one school declined to participate, and in one school the French I class consisted solely of eighth graders who would not have taken the Stanford 9 test. The 29 French I classes in these 20 schools that were eligible to participate were divided as follows: 7 classes using a 4 x 4 schedule, 7 classes using an alternating day schedule, and 15 classes using a 6/7-period day schedule.

Since the first request for participation did not yield sufficient classes to conduct the study, a reminder postcard was sent to the remaining 254 schools in the state 3 weeks after the initial request. This request produced 30 more classes, with totals resulting as follows: 21 classes using a 6/7-period day schedule, 21 classes using an alternating day schedule, and 17 classes using a 4 x 4 schedule.

The pool of schools participating in the 4x4 scheduling group was still not large enough, so one final request for participation was sent to 44 schools in the state that used the 4x4 schedule but that had not yet responded. This produced an additional eight classes on the 4x4 scheduling format for a total of 25 classes.

As data were received and confirmed, five classes in the 6-/7- period day group were disqualified, three because they contained no ninth graders, one because no ninth graders in the class returned the required permission forms, and one because the teacher failed to collect the required Stanford 9 scores. Also, when contacted for confirmation, three teachers had changed their minds about participating, and their classes were eliminated, two from the alternating day group and one from the 4x4 group. However,
additional publicity about the study at a statewide conference of foreign language teachers and late arriving responses from other teachers produced a sufficient number of classes to begin the study. By May 1998, a total of 66 classes had committed to the study: 23 on the 4x4 schedule, 23 on the alternating day schedule, and 20 on the 6/7-period day schedule.

**Generalizability**

The results of this study may be generalized to ninth grade students enrolled in a French I class in a public school in Virginia. Only ninth graders participated in the study because, at the time, they were the only high school students who had taken the Stanford 9 test whose scores were used as covariates for the study.

**Data Collection**

**Homework Questionnaire**

The process of finding sufficient classes to participate took longer than anticipated, and since work with the teachers and classes could not continue until permission to conduct research had been granted in each school division, one aspect of the original study proposal was modified. By the time sufficient classes for each group were located and approved, it was impossible to identify a 2-week uninterrupted period during which the teachers would keep the originally proposed homework log. These data needed to be collected prior to the beginning of second semester. One of the 4x4 classes began exams almost immediately upon return to school after Christmas vacation, on January 8, 1998, thus terminating that class and effectively eliminating the chance to gather further data from that group and teacher. Permission was requested and received from the researcher’s dissertation committee to substitute a questionnaire for the homework log. The questions asked on the homework questionnaire are located in Appendix C.
Permission Forms

The researcher secured formal permission to conduct the study in the 30 school divisions represented by the 66 interested classes. As permission was granted for each participating class, the teacher was asked to complete a consent form and a data sheet that gave additional information about the school as well as the total number of students in the class who would participate in the study. Based on this information, student consent forms and parent permission forms as well as the homework questionnaire were forwarded to the teacher. Examples of all permission forms are located in Appendix A.

Stanford 9 Scores

The teachers were also provided with a form to use in collecting the Stanford 9 Total Reading and Language scores for participating ninth graders. The permission forms and Stanford 9 data were all returned to an intermediary by mid-May 1998. The intermediary was used to maintain confidentiality of information provided by the students.

End-of-Course Test

The first group of students to take the test were those on the 4x4 schedule first semester. These tests were mailed to teachers of these 15 classes in late December. The teachers administered the test at an appropriate time during the last 10 hours of instruction prior to the beginning of their own final exams. Thus the end-of-course tests for this group were administered in January 1998.

The tests were mailed to teachers of the remaining 51 classes in mid-May. The students in these classes took the end-of-course test during the last 10 hours of instruction prior to their own final exams in June 1998. These included the eight second-semester 4x4
classes as well as all of the classes on a daily schedule (n = 20) and an alternating day
schedule (n = 23).

All components of the final version of the end-of-course test are available for
review in Appendix D. This includes the instructions for administering the test as well as
each individual test in listening, reading, writing, and speaking. The script for the listening
test tape is also available. Finally, a copy of the answer sheet and the scoring rubrics for
the writing and speaking tests are included.
Chapter 4: Analysis of Results

This chapter contains a brief description of the study as well as information related to the rate of return and an analysis of each of the areas in which data were collected. This study was designed to compare end-of-course performance of French I ninth grade students who had been instructed on three different scheduling formats: a 4x4 semester schedule, an alternating day block schedule, or a 6-/7-period day schedule. The research questions for this study were as follows:

1. Does the time allocated for learning in French I vary according to the schedule on which students are instructed?

   The answer to this question was determined by analyzing the data provided by teachers on the amount of time available for instruction on their various schedules.

2. Does French I student performance vary according to the schedule on which students are instructed (4x4, alternating day, or daily schedule) as measured by scores on end-of-course tests in speaking, writing, listening, and reading?

   This question was answered by interpreting data provided by scores from each of the skill area tests.

3. Does the quantity of homework that teachers assign to their French I students vary according to the schedule used (4x4, alternating day, or daily schedule) as described in a self-report instrument from teachers?

   Homework data collected from the teachers were used to determine the answer to this question.
Methodology

First, teachers were asked to report the total amount of time that their respective schedules allotted for French I instruction during the course of a year. Next, teachers were asked to estimate how much time they expected their students to spend on homework both outside of class and in class. Teachers also collected the scores of the participating students on the Stanford Achievement Test Series, Ninth Edition 1996 (Stanford 9) to be used as covariates in determining pre-existing differences among groups.

Finally, the researcher created an end-of-course test based on the Virginia Standards of Learning for French I (1988) which are available in Appendix B. The test measured separately skill proficiency in listening, speaking, reading, and writing. The test was validated by five French I teachers in Virginia who confirmed that the content was appropriate to the expectations for French I students in the state as measured by the Virginia Standards of Learning for French I (1988). The test was also field tested with end-of-course French I students at the end of the previous academic year. Only the results of ninth grade students were used in this study because only ninth grade students had taken the Stanford 9 test which produced the scores in reading and language that were used as covariates for the study. In previous years, public schools in Virginia had administered other nationally-normed tests.

The end-of-course French I test was administered to all participating classes during the last 10 instructional hours prior to the beginning of their own final exams. All students participating in the study took the tests in listening, reading, and writing. For the objectively scored sub-tests, listening and reading, the tests of all participating ninth grade
students were scored and used. Only a sampling from each of the subjectively scored sub-
tests, speaking and writing, was used. A sample of randomly selected ninth graders in each
of the scheduling groups was asked to make a speaking tape which was scored according
to the speaking scoring rubric found in Appendix D. The writing submissions of a sample
of randomly selected ninth graders were graded according to the writing scoring rubric
which is also in Appendix D.

Rate of Return

There were two possible return dates for this study. Classes that were taught on
the 4x4 schedule during the first semester returned their completed testing materials within
one week after administering the end-of-course test in January 1998. All remaining classes
in all scheduling groups returned test materials within one week after administering the
end-of-course test in June 1998.

Listening and Reading Tests

There was a 100% return rate in the alternating day and daily schedule groups for
the listening and reading tests. In the 4x4 scheduling group, 6 of the 23 classes that had
agreed to participate in the study failed to return the end-of-course testing materials.
Teachers of 3 of the 15 first-semester 4x4 classes were unable to administer the test at the
last minute because school was closed due to snow on the day the test was to be
administered, and there was not time for a make-up session. Teachers of 3 of the 8
second-semester 4x4 classes felt that they did not have time to spare in their instructional
schedule. They felt pushed to cover even the essentials of the French I course. Thus, they
opted not to administer the test and returned blank test materials.
Table 3

Return Rate for Listening and Reading Tests

<table>
<thead>
<tr>
<th>Return Rate</th>
<th>4x4</th>
<th>Alternating Day</th>
<th>Daily</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Classes Participating</td>
<td>23</td>
<td>23</td>
<td>20</td>
<td>66</td>
</tr>
<tr>
<td>No. of Classes Returning Materials</td>
<td>17</td>
<td>23</td>
<td>20</td>
<td>60</td>
</tr>
<tr>
<td>Percentage of Return</td>
<td>73.91%</td>
<td>100%</td>
<td>100%</td>
<td>90.91%</td>
</tr>
</tbody>
</table>

Writing Test

All students who participated in the study were asked to answer the writing questions. Prior to the test administration, the researcher randomly selected a sample of students in each group whose papers would be graded for writing. Initially, 27 students in the 4x4 group were randomly selected for the writing sample. The writing samples of 20 of these students were actually returned. The remaining 7 students were in 4x4 classes whose teachers were unable to or declined to participate in the study at the last minute. Thirty students in the alternating day group were selected for the writing sample. The writing samples of 24 of these students were actually returned. Six samples were not returned either because students declined to participate or were absent on the day the test was administered. The writing samples of 30 students in the daily schedule group were selected for the writing sample. The writing samples of 24 of these students were actually returned. Six samples were not returned either because the students declined to participate or were absent on the day the test was administered.
Table 4

Return Rate for Writing Test Samples

<table>
<thead>
<tr>
<th>Return Rate</th>
<th>4x4</th>
<th>Alternating Day</th>
<th>Daily</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Selected Samples</td>
<td>27</td>
<td>30</td>
<td>30</td>
<td>87</td>
</tr>
<tr>
<td>No. of Returned Samples</td>
<td>20</td>
<td>24</td>
<td>24</td>
<td>68</td>
</tr>
<tr>
<td>Percentage of Return</td>
<td>74.07%</td>
<td>80.0%</td>
<td>80.00%</td>
<td>78.16%</td>
</tr>
</tbody>
</table>

Speaking Test

Initially, 27 students in the 4x4 group were selected for the speaking sample. The speaking samples of 18 of these students were actually returned. The remaining 9 students were in 4x4 classes whose teachers were unable to or declined to participate in the study at the last minute. Thirty students in the alternating day group were selected for the speaking sample. The speaking samples of 24 of these students were actually returned. Six samples were not returned either because students declined to participate or were absent on the day the test was administered. The speaking samples of 30 students in the daily schedule group were selected for the speaking sample. The speaking samples of 24 of these students were actually returned. Six samples were not returned either because the students declined to participate or were absent on the day the test was administered.
Table 5

Return Rate for Speaking Samples

<table>
<thead>
<tr>
<th>Return Rate</th>
<th>4x4</th>
<th>Alternating Day</th>
<th>Daily</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Selected Samples</td>
<td>27</td>
<td>30</td>
<td>30</td>
<td>87</td>
</tr>
<tr>
<td>No. of Returned Samples</td>
<td>18</td>
<td>24</td>
<td>24</td>
<td>66</td>
</tr>
<tr>
<td>Percentage of Return</td>
<td>66.67%</td>
<td>80.00%</td>
<td>80.00%</td>
<td>75.86%</td>
</tr>
</tbody>
</table>

Time Spent In Instruction

The amount of time available to teachers for instruction varied widely according to the schedule used. Teachers using a 4 x 4 schedule reported the least number of total annual class hours ($M = 135.0588$, $SD = 3.6949$ hours) available for instruction. Teachers using a daily schedule reported the most total annual class hours ($M = 153.0667$, $SD = 11.5090$ hours) available for instruction. Teachers using an alternating day block schedule reported total annual class hours ranging from 127.50 hours to 168.00 hours available for instruction ($M = 140.1703$, $SD = 10.2842$ hours).
Table 6

Descriptive Statistics for Number of Class Hours by Schedule Type

<table>
<thead>
<tr>
<th>Group</th>
<th>Count</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Standard Error</th>
<th>95 Pct Conf Int for Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>4x4</td>
<td>17</td>
<td>135.0588</td>
<td>3.6949</td>
<td>.8962</td>
<td>133.1591 TO 136.9586</td>
</tr>
<tr>
<td>AB</td>
<td>23</td>
<td>140.1703</td>
<td>10.2842</td>
<td>2.1444</td>
<td>135.7231 TO 144.6175</td>
</tr>
<tr>
<td>Daily</td>
<td>20</td>
<td>153.0667</td>
<td>11.5090</td>
<td>2.5735</td>
<td>147.6803 TO 158.4530</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>143.0208</td>
<td>11.8928</td>
<td>1.5354</td>
<td>139.9486 TO 146.0931</td>
</tr>
</tbody>
</table>

GROUP MINIMUM MAXIMUM

<table>
<thead>
<tr>
<th>Group</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>4x4</td>
<td>127.5000</td>
<td>140.0000</td>
</tr>
<tr>
<td>AB</td>
<td>127.5000</td>
<td>168.0000</td>
</tr>
<tr>
<td>Daily</td>
<td>135.0000</td>
<td>180.0000</td>
</tr>
<tr>
<td>TOTAL</td>
<td>127.5000</td>
<td>180.0000</td>
</tr>
</tbody>
</table>

The researcher analyzed the number of hours available for instruction per year using a one-way analysis of variance where the independent variable was type of schedule

Table 7

One-way Analysis of Covariance of Annual Class Hours by Type of Schedule

<table>
<thead>
<tr>
<th>Variable</th>
<th>CLASS HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>By Variable</td>
<td>TYPE OF SCHEDULE</td>
</tr>
</tbody>
</table>

Analysis of Variance

<table>
<thead>
<tr>
<th>Source</th>
<th>D.F.</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F Ratio</th>
<th>F Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>2</td>
<td>3282.9553</td>
<td>1641.4777</td>
<td>18.4838</td>
<td>.0000*</td>
</tr>
<tr>
<td>Within Groups</td>
<td>57</td>
<td>5061.9700</td>
<td>88.8065</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>59</td>
<td>8344.9253</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Levene Test for Homogeneity of Variances

<table>
<thead>
<tr>
<th>Statistic</th>
<th>df1</th>
<th>df2</th>
<th>2-tail Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4.4764</td>
<td>2</td>
<td>57</td>
</tr>
</tbody>
</table>

*p < .05

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and the dependent variable was the number of annual class hours. The results indicated that there was a significant difference (p < .05) in the number of class hours available for instruction among the various scheduling groups.

Thus, students who were instructed on a 4 x 4 semester schedule were in class an average of 5.11 fewer hours per year than those instructed on an alternating day schedule and an average of 18.01 fewer hours per year than those instructed on a daily schedule. Students who were instructed on an alternating day schedule were in class an average of 5.11 more hours per year than those instructed on a 4 x 4 semester schedule and an average of 12.9 fewer hours per year than those instructed on a daily schedule. Students instructed on a daily schedule were in class an average of 18.01 hours more per year than those instructed on a 4 x 4 schedule and an average of 12.9 hours more per year than those instructed on an alternating day schedule.

![Figure 6](image-url)  
**Figure 6.** Mean Total Hours Available for Instruction Per Year by Schedule Type (Raw Data)
Using a post-hoc test, the Tukey-HSD, it was determined that the number of class hours available to the 4x4 and alternating day schedule did not vary significantly from each other. However, they did both vary significantly from the number of class hours available to the classes taught on a daily schedule. Thus, the classes taught on a daily schedule had significantly more hours available for instruction.

Table 8
Results of the Tukey-HSD test on Annual Class Hours by Schedule Type

<table>
<thead>
<tr>
<th>Variable</th>
<th>CLASS HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>By Variable</td>
<td>TYPE OF SCHEDULE</td>
</tr>
</tbody>
</table>

Multiple Range Tests: Tukey-HSD test with significance level .050

The difference between two means is significant if
\[ \text{MEAN}(J) - \text{MEAN}(I) \geq 6.6636 \times \text{RANGE} \times \sqrt{\frac{1}{N(I)} + \frac{1}{N(J)}} \]

with the following value(s) for RANGE: 3.40

(*) Indicates significant differences which are shown in the lower triangle

<table>
<thead>
<tr>
<th>Group 1 = 4x4</th>
<th>Group 2 = Alternating Day</th>
<th>Group 3 = Daily</th>
</tr>
</thead>
<tbody>
<tr>
<td>G G G</td>
<td>r r r</td>
<td>p p p</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mean</th>
<th>TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>135.0588</td>
<td>Grp 1</td>
</tr>
<tr>
<td>140.1703</td>
<td>Grp 2</td>
</tr>
<tr>
<td>153.0667</td>
<td>Grp 3 * *</td>
</tr>
</tbody>
</table>

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Homework Outside of Class

Teachers reported that generally they did expect their students to spend time on homework assignments outside of class. These homework expectations varied widely according to the schedule that was used for instruction and also within each schedule.

Teachers on the 4 x 4 semester schedule reported the least number of expected hours ($M = 37.2794$, $SD = 10.3667$) of outside homework annually, with a range of 22.50 to 67.50 hours. Teachers on the daily schedule reported the greatest number of expected hours ($M = 51.0000$, $SD = 20.1540$) of outside homework annually, with a range of .00 to 90.00 hours. Teachers on the alternating day schedule reported a range of .00 to 78.75 hours ($M = 42.8804$, $SD = 19.3482$) of expected outside homework.

Table 9

<table>
<thead>
<tr>
<th>Group</th>
<th>Count</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Standard Error</th>
<th>95 Pct Conf Int for</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>4x4</td>
<td>17</td>
<td>37.2794</td>
<td>10.3667</td>
<td>2.5143</td>
<td>31.9494 TO 42.6095</td>
<td>42.8804</td>
</tr>
<tr>
<td>AB</td>
<td>23</td>
<td>42.8804</td>
<td>19.3482</td>
<td>4.0344</td>
<td>34.5137 TO 51.2472</td>
<td>51.0000</td>
</tr>
<tr>
<td>Daily</td>
<td>20</td>
<td>51.0000</td>
<td>20.1540</td>
<td>4.5066</td>
<td>41.5676 TO 60.4324</td>
<td>42.8804</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>44.0000</td>
<td>18.1563</td>
<td>2.3440</td>
<td>39.3097 TO 48.6903</td>
<td>42.8804</td>
</tr>
</tbody>
</table>

The researcher analyzed the number of hours of expected outside homework using a one-way analysis of variance where the independent variable was type of schedule and
the dependent variable was the number of hours of expected homework outside of class. The results indicated that there was no significant difference (p < .05) in the number of hours of expected homework outside of class between any of the 3 schedule groups.

Table 10

<table>
<thead>
<tr>
<th>Variable</th>
<th>HOMEWORK</th>
<th>HOURS OUTSIDE OF CLASS</th>
</tr>
</thead>
<tbody>
<tr>
<td>By Variable</td>
<td>TYPE</td>
<td>Type</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>D.F.</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F Ratio</th>
<th>F Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>2</td>
<td>1776.6560</td>
<td>888.3280</td>
<td>2.8651</td>
<td>.0652</td>
</tr>
<tr>
<td>Within Groups</td>
<td>57</td>
<td>17672.7190</td>
<td>310.0477</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>59</td>
<td>19449.3750</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Levene Test for Homogeneity of Variances

<table>
<thead>
<tr>
<th>Statistic</th>
<th>df1</th>
<th>df2</th>
<th>2-tail Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1183</td>
<td>2</td>
<td>57</td>
<td>.130</td>
</tr>
</tbody>
</table>

Thus, students who were instructed on a 4 x 4 semester schedule were expected to do an average of 5.6 fewer hours of outside homework per year than those instructed on an alternating day schedule and an average of 13.7 fewer hours of outside homework per year than those instructed on a daily schedule. Students who were instructed on an alternating day schedule were expected to do an average of 5.6 more hours of outside homework per year than those instructed on a 4 x 4 semester schedule and an average of 8.1 fewer hours of outside homework per year than those instructed on a daily schedule. Students instructed on a daily schedule were expected to do an average of 13.7 more hours of outside homework per year than those instructed on a 4 x 4 schedule and an
average of 8.1 more hours of outside homework per year than those instructed on an alternating day schedule.

![Graph showing mean number of hours of expected annual outside homework by schedule type.](image)

**Figure 6.** Mean Number of Hours of Expected Annual Outside Homework by Schedule Type (Raw Data)

Also, the variation in the hours of expected outside homework was very large in two of the groups. The alternating day classes had a range of 78.75 hours of expected outside homework (from .00 hours to 78.75 hours), and the classes that met daily had a range of 90.00 hours of expected outside homework (from .00 hours to 90.00 hours). The range for the 4x4 schedule classes was 45.00 (from 22.50 hours to 67.50 hours).

**Homework In Class**

Teachers also reported that generally they did expect their students to spend time on homework assignments in class. These homework expectations varied according to the schedule that was used for instruction and also within each schedule. Teachers on the 4x4
semester schedule reported the greatest number of hours of in-class homework time ($M = 11.3471$ hours, $SD = 10.3667$ hours) annually, with a range of .00 hours to 37.50 hours. Teachers on the alternating day schedule ($M = 5.8696$ hours, $SD = 13.2257$) and on the daily schedule ($M = 5.6250$, $SD = 9.3088$) reported a similar number of hours of in-class homework. The in-class hours of homework reports for the alternating day teachers ranged from .00 hours to 45.00 hours. The daily schedule teachers reported a range of .00 hours to 22.50 hours of in-class homework.

Table 11

Descriptive Statistics of Number of Hours of Homework Allowed In Class

<table>
<thead>
<tr>
<th>Group</th>
<th>Count</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Standard Error</th>
<th>95 Pct Conf Int for Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>4x4</td>
<td>17</td>
<td>11.3471</td>
<td>12.9024</td>
<td>3.1293</td>
<td>4.7133 TO 17.9808</td>
</tr>
<tr>
<td>AB</td>
<td>23</td>
<td>5.8696</td>
<td>13.2257</td>
<td>2.7578</td>
<td>.1503 TO 11.5888</td>
</tr>
<tr>
<td>Daily</td>
<td>20</td>
<td>5.6250</td>
<td>9.3088</td>
<td>2.0815</td>
<td>1.2683 TO 9.9817</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>7.3400</td>
<td>12.0308</td>
<td>1.5532</td>
<td>4.2321 TO 10.4479</td>
</tr>
</tbody>
</table>

GROUP MINIMUM MAXIMUM

| 4x4   | .0000 | 37.5000 |
| AB    | .0000 | 45.0000 |
| Daily | .0000 | 22.5000 |
| TOTAL | .0000 | 45.0000 |

The researcher analyzed the number of hours of expected in-class homework using a one-way analysis of variance where the independent variable was type of schedule and the dependent variable was the number of hours of expected homework in class. The results indicated that there was no significant difference ($p < .05$) in the number of hours of expected homework outside of class between any of the 3 schedule groups.
Table 12

Analysis of Variance of Number of Hours of Allowed In-Class Homework

<table>
<thead>
<tr>
<th>Source</th>
<th>D.F.</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F</th>
<th>F Ratio</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>2</td>
<td>381.5155</td>
<td>190.7577</td>
<td>1.3328</td>
<td>.2718</td>
<td></td>
</tr>
<tr>
<td>Within Groups</td>
<td>57</td>
<td>8158.2102</td>
<td>143.1265</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>59</td>
<td>8539.7257</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Levene Test for Homogeneity of Variances

<table>
<thead>
<tr>
<th>Statistic</th>
<th>df1</th>
<th>df2</th>
<th>2-tail Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>.4494</td>
<td>2</td>
<td>57</td>
<td>.640</td>
</tr>
</tbody>
</table>

Thus, students who were instructed on a 4 x 4 semester schedule were expected to do an average of 5.5 more hours of in-class homework per year than those instructed on an alternating day schedule and an average of 5.7 more hours of in-class homework per year than those instructed on a daily schedule. Students who were instructed on an alternating day schedule were expected to do an average of 5.5 fewer hours of in-class homework per year than those instructed on a 4 x 4 semester schedule and an average of .24 more hours of in-class homework per year than those instructed on a daily schedule. Students instructed on a daily schedule were expected to do an average of 5.7 fewer hours of in-class homework per year than those instructed on a 4 x 4 schedule and an average of .24 fewer hours of in-class homework per year than those instructed on an alternating day schedule.
Listening Test

The listening test was administered to all students who participated in the study. The test consisted of 22 multiple-choice questions. The listening test was administered from an audio cassette tape, and students recorded their answers on an answer sheet that was scanned. The highest possible score on the test was 22. All test papers of eligible students were used in the analysis, including those where students did not answer all the questions and those where teachers indicated that the students were failing or had not taken the test seriously. The answer sheet was scored objectively by machine and verified a second time. Since each class was a case for this study, the scores from the listening tests of all participating students in each class were averaged to obtain a mean listening score for each class. The mean listening score for all of the 4x4 classes was 10.6118 (SD =
The mean listening score for all of the alternating day classes was 10.7522 (SD = 2.1578). The mean listening score for all of the classes that met daily was 10.6867 (SD = 2.6990).

**Table 13**

**Descriptive Statistics for the Listening Test Scores by Schedule Type**

<table>
<thead>
<tr>
<th>Group</th>
<th>Count</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Standard Error</th>
<th>95 Pct Conf Int for Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>4x4</td>
<td>17</td>
<td>10.6118</td>
<td>3.4185</td>
<td>.8291</td>
<td>8.8541 TO 12.3694</td>
</tr>
<tr>
<td>AB</td>
<td>23</td>
<td>10.7522</td>
<td>2.1578</td>
<td>.4499</td>
<td>9.8191 TO 11.6853</td>
</tr>
<tr>
<td>Daily</td>
<td>20</td>
<td>10.6750</td>
<td>2.7162</td>
<td>.6074</td>
<td>9.4038 TO 11.9462</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>10.6867</td>
<td>2.6990</td>
<td>.3484</td>
<td>9.9894 TO 11.3839</td>
</tr>
</tbody>
</table>

**GROUP MINIMUM MAXIMUM**

| 4x4   | 7.0000 | 19.5000 |
| AB    | 6.0000 | 15.0000 |
| Daily | 6.3000 | 14.8000 |
| TOTAL | 6.0000 | 19.5000 |

MAXIMUM POSSIBLE SCORE = 22

The researcher analyzed the listening scores with an analysis of covariance using the Stanford 9 Total Reading and Language Scaled Scores as covariates to account for pre-existing differences among groups. The type of schedule was the independent variable, and the score on the listening test was the dependent variable.

The results of the analysis of covariance indicated that once adjusted for pre-existing differences and standard deviation, there was no significant difference (p < .05) among groups.
Table 14
Analysis of Covariance of Listening Scores by Schedule Type

**ANALYSIS OF VARIANCE**

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Covariates</td>
<td>133.569</td>
<td>2</td>
<td>66.784</td>
<td>12.406</td>
<td>.000</td>
</tr>
<tr>
<td>STANLANG</td>
<td>16.199</td>
<td>1</td>
<td>16.199</td>
<td>3.010</td>
<td>.088</td>
</tr>
<tr>
<td>STANREAD</td>
<td>33.413</td>
<td>1</td>
<td>33.413</td>
<td>6.239</td>
<td>.016</td>
</tr>
<tr>
<td>Main Effects</td>
<td>2.627</td>
<td>2</td>
<td>1.313</td>
<td>0.244</td>
<td>.794</td>
</tr>
<tr>
<td>TYPE</td>
<td>2.627</td>
<td>2</td>
<td>1.313</td>
<td>0.244</td>
<td>.794</td>
</tr>
<tr>
<td>Explained</td>
<td>133.765</td>
<td>4</td>
<td>33.441</td>
<td>6.213</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>296.024</td>
<td>55</td>
<td>5.392</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>429.739</td>
<td>59</td>
<td>7.285</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

60 cases were processed.
0 cases (0 pct) were missing.

Figure 8. Mean Listening Scores by Schedule Type (Raw Data)

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Reading Test

The reading test was administered to all students who participated in the study. The test consisted of 15 multiple-choice questions, and students recorded their answers on an answer sheet that was scanned. The highest possible score on the test was 15. All test papers of eligible students were used in the analysis, including those where students did not answer all the questions and those where teachers indicated that the students were failing or had not taken the test seriously. The answer sheet was scored objectively by machine and verified a second time.

Since each class was a case for this study, the scores from the reading tests of all participating students in each class were averaged to obtain a mean reading score for each class. The mean reading score for all of the 4x4 classes was 6.5882 (SD = 3.0812). The mean reading score for all of the alternating day classes was 6.5565 (SD = 2.2707). The mean reading score for all of the classes that met daily was 6.9750 (SD = 1.9558).

Table 15

Descriptive Statistics for the Reading Test Scores by Schedule Type

<table>
<thead>
<tr>
<th>Group</th>
<th>Count</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Standard Error</th>
<th>95 Pct Conf Int for Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>4x4</td>
<td>17</td>
<td>6.5882</td>
<td>3.0812</td>
<td>.7473</td>
<td>5.0040 TO 8.1724</td>
</tr>
<tr>
<td>AB</td>
<td>23</td>
<td>6.5565</td>
<td>2.2707</td>
<td>.4735</td>
<td>5.5746 TO 7.5385</td>
</tr>
<tr>
<td>Daily</td>
<td>20</td>
<td>6.9750</td>
<td>1.9558</td>
<td>.4373</td>
<td>6.0597 TO 7.8903</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>6.7050</td>
<td>2.4013</td>
<td>.3100</td>
<td>6.0847 TO 7.3253</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GROUP</th>
<th>MINIMUM</th>
<th>MAXIMUM</th>
</tr>
</thead>
<tbody>
<tr>
<td>4x4</td>
<td>4.0000</td>
<td>15.0000</td>
</tr>
<tr>
<td>AB</td>
<td>.7000</td>
<td>11.4000</td>
</tr>
<tr>
<td>Daily</td>
<td>3.3000</td>
<td>12.0000</td>
</tr>
<tr>
<td>TOTAL</td>
<td>.7000</td>
<td>15.0000</td>
</tr>
</tbody>
</table>

MAXIMUM POSSIBLE SCORE = 15

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There was one noticeable outlying class score in the alternating day group. The mean reading score for one of the classes, .70, resulted from 7 out of the 8 participating students in the class failing to respond to any questions on the reading test. The researcher decided to keep the score intact because papers from other students had been used regardless of how they had performed on the test. There was no way to determine if the students had left the questions blank because they did not know any answers or because they had not seen the test. However, all students had responded to a writing prompt that was on the same side of the answer sheet as the reading test. An analysis of covariance was done both with and without the data from that particular class, resulting both times in a determination of no significant difference (p < .05) among groups.

**Figure 9** Mean Reading Scores by Schedule Type (Raw Data)
The researcher analyzed the reading scores with an analysis of covariance using the Stanford 9 Total Reading and Language Scaled Scores as covariates to account for pre-existing differences among groups. The type of schedule was the independent variable, and the score on the reading test was the dependent variable.

The results of the analysis of covariance indicated that once adjusted for pre-existing differences and standard deviation, there was no significant difference (p < .05) among groups.

Table 16

Analysis of Covariance of Reading Scores by Schedule Type

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Covariates</td>
<td>97.191</td>
<td>2</td>
<td>48.595</td>
<td>11.098</td>
<td>.000</td>
</tr>
<tr>
<td>STANLANG</td>
<td>35.674</td>
<td>1</td>
<td>35.674</td>
<td>8.147</td>
<td>.006</td>
</tr>
<tr>
<td>STANREAD</td>
<td>4.995</td>
<td>1</td>
<td>4.995</td>
<td>1.141</td>
<td>.290</td>
</tr>
<tr>
<td>Main Effects</td>
<td>8.662</td>
<td>2</td>
<td>4.331</td>
<td>.989</td>
<td>.378</td>
</tr>
<tr>
<td>TYPE</td>
<td>8.662</td>
<td>2</td>
<td>4.331</td>
<td>.989</td>
<td>.378</td>
</tr>
<tr>
<td>Explained</td>
<td>99.387</td>
<td>4</td>
<td>24.847</td>
<td>5.675</td>
<td>.001</td>
</tr>
<tr>
<td>Residual</td>
<td>240.821</td>
<td>55</td>
<td>4.379</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>340.209</td>
<td>59</td>
<td>5.766</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

60 cases were processed.
0 cases (.0 pct) were missing.
Writing Test

All students who participated in the study were asked to answer the writing questions. Prior to the test administration, the researcher randomly selected a sample of students in each group whose papers would be graded for writing.

The highest possible score on the total writing test was 25. All test papers of the selected sample were used in the analysis, including those where students did not complete all sections and those where teachers indicated that the students were failing or had not taken the test seriously.

The total writing test consisted of three parts. Part A was a cloze dictation administered from an audio cassette tape. Nine words were omitted from a paragraph that was read on the cassette and printed on the student’s answer sheet. Based on what students heard on the audio tape, they were to write the nine missing words. In order to be counted correct, a word had to be spelled correctly with accurate diacritical marks. The highest possible score on Part A was 9.

Part B of the writing test asked the student to write a paragraph (5 sentence minimum) based on written cues that were provided. A team of two French teachers used a rubric (which may be found in Appendix D) to score the sample and assigned a score derived by consensus. The highest possible score on Part B of the writing test was 8. The writing test papers were coded such that the graders did not know from which schedule the papers originated.

Part C of the writing test asked the student to write a paragraph (5 sentence minimum) based on a visual cue that was provided. A team of two French teachers used a
rubric (which may be found in Appendix D) to score the sample and assigned a score derived by consensus. The highest possible score on Part C of the writing test was 8.

The total writing scores on the writing samples were averaged to obtain a mean writing score for each scheduling group. The mean writing score for the 4x4 students was 9.4000 (SD = 6.3941). The mean writing score for all of the alternating day students was 11.4167 (SD = 4.5101). The mean writing score for the students who met daily was 9.8333 (SD = 3.9084).

Table 17

Descriptive Statistics for the Writing Test Scores by Schedule Type

<table>
<thead>
<tr>
<th>Group</th>
<th>Count</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Standard Error</th>
<th>95 Pct Conf Int for Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>4X4</td>
<td>20</td>
<td>9.4000</td>
<td>6.3941</td>
<td>1.4298</td>
<td>6.4075 TO 12.3925</td>
</tr>
<tr>
<td>AB</td>
<td>24</td>
<td>11.4167</td>
<td>4.5101</td>
<td>.9206</td>
<td>9.5122 TO 13.3211</td>
</tr>
<tr>
<td>DAILY</td>
<td>24</td>
<td>9.8333</td>
<td>3.9084</td>
<td>.7978</td>
<td>8.1830 TO 11.4837</td>
</tr>
<tr>
<td>Total</td>
<td>68</td>
<td>10.2647</td>
<td>4.9584</td>
<td>.6013</td>
<td>9.0645 TO 11.4649</td>
</tr>
</tbody>
</table>

GROUP MINIMUM MAXIMUM

| 4X4 | 2.0000 | 20.0000 |
| AB | 1.0000 | 21.0000 |
| DAILY | 2.0000 | 17.0000 |
| TOTAL | 1.0000 | 21.0000 |

The researcher analyzed the writing scores with an analysis of covariance using the Stanford 9 Total Reading and Language Scaled Scores as covariates to account for pre-existing differences among groups. The type of schedule was the independent variable, and the score on the writing test was the dependent variable. The results of the analysis of covariance indicated that once adjusted for pre-existing differences and standard deviation, there was no significant difference (p < .05) among groups.
Table 18

Analysis of Covariance of Writing Scores by Schedule Type

```
*** ANALYSIS OF VARIANCE ***

WRITING
by TYPE
with Stanford Language
Stanford Reading

UNIQUE sums of squares
All effects entered simultaneously

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Square</th>
<th>F of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Covariates</td>
<td>593.014</td>
<td>2</td>
<td>296.507</td>
<td>13.62</td>
</tr>
<tr>
<td>STANLANG</td>
<td>350.230</td>
<td>1</td>
<td>350.230</td>
<td>22.000</td>
</tr>
<tr>
<td>STANREAD</td>
<td>9.707</td>
<td>1</td>
<td>9.707</td>
<td>.610</td>
</tr>
<tr>
<td>Main Effects</td>
<td>42.043</td>
<td>2</td>
<td>21.021</td>
<td>1.320</td>
</tr>
<tr>
<td>TYPE</td>
<td>42.043</td>
<td>2</td>
<td>21.021</td>
<td>1.320</td>
</tr>
<tr>
<td>Explained</td>
<td>644.282</td>
<td>4</td>
<td>161.071</td>
<td>10.113</td>
</tr>
<tr>
<td>Residual</td>
<td>1002.953</td>
<td>63</td>
<td>15.920</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1647.225</td>
<td>67</td>
<td>24.586</td>
<td></td>
</tr>
</tbody>
</table>

68 cases were processed.
0 cases (.0 pct) were missing.
```

Figure 10. Mean Writing Scores by Schedule Type (Raw Data)
Speaking Test

Prior to the test administration, the researcher randomly selected a sample of students in each group who were asked to submit recorded speaking samples to be graded. The highest possible score on the total speaking test was 24. All submitted cassette tapes (speaking samples) were used in the analysis, including those where students did not complete all sections and those where teachers indicated that the students were failing or had not taken the test seriously.

The total speaking test consisted of three parts. Part A contained seven sentences to be read in French using correct pronunciation and intonation. A team of two French teachers used a rubric (which may be found in Appendix D) to score the speaking sample and assigned a score derived by consensus. The highest possible score on Part A of the speaking test was 8.

Parts B and C of the speaking test asked the student to respond to written cues that were provided. A team of two French teachers used a rubric (which may be found in Appendix C) to score the speaking samples and assigned a score derived by consensus. The highest possible score on Parts B and C of the speaking test was 8 for each part. The speaking samples were coded such that the graders did not know from which schedule the samples originated.

The total speaking scores on the speaking samples were averaged to obtain a mean speaking score for each scheduling group. The mean speaking score for the 4x4 students was 9.6667 (SD = 4.3386). The mean speaking score for all of the alternating day students was 11.2917 (SD = 4.5347). The mean speaking score for the students who met daily was 10.2083 (SD = 3.4005).
The researcher analyzed the speaking scores with an analysis of covariance using the Stanford 9 Total Reading and Language Scaled Scores as covariates to account for pre-existing differences among groups. The type of schedule was the independent variable, and the score on the speaking test was the dependent variable. The results of the analysis of covariance indicated that once adjusted for pre-existing differences and standard deviation, there was no significant difference (p < .05) among groups.

Table 19

Descriptive Statistics for the Speaking Test Scores by Schedule Type

<table>
<thead>
<tr>
<th>Group</th>
<th>Count</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Standard Error</th>
<th>95 Pct Conf Int for Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>4x4</td>
<td>18</td>
<td>9.6667</td>
<td>4.3386</td>
<td>1.0226</td>
<td>7.5091 TO 11.8242</td>
</tr>
<tr>
<td>AB</td>
<td>24</td>
<td>11.2917</td>
<td>4.5347</td>
<td>.9256</td>
<td>9.3768 TO 13.2065</td>
</tr>
<tr>
<td>Daily</td>
<td>24</td>
<td>10.2083</td>
<td>3.4005</td>
<td>.6941</td>
<td>8.7724 TO 11.6442</td>
</tr>
<tr>
<td>Total</td>
<td>66</td>
<td>10.4545</td>
<td>4.0920</td>
<td>.5037</td>
<td>9.4486 TO 11.4605</td>
</tr>
</tbody>
</table>

GROUP        MINIMUM | MAXIMUM
4x4          3.0000    | 17.0000
AB           4.0000    | 22.0000 MAXIMUM POSSIBLE SCORE = 24
Total        4.0000    | 18.0000
TOTAL        3.0000    | 22.0000
### Table 20

**Analysis of Covariance of Speaking Scores by Schedule Type**

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Covariates</td>
<td>32.172</td>
<td>2</td>
<td>16.087</td>
<td>.956</td>
<td>.396</td>
</tr>
<tr>
<td>STANLANG</td>
<td>.786</td>
<td>1</td>
<td>.786</td>
<td>.047</td>
<td>.930</td>
</tr>
<tr>
<td>STANREAD</td>
<td>10.366</td>
<td>1</td>
<td>10.366</td>
<td>.616</td>
<td>.436</td>
</tr>
<tr>
<td>Main Effects</td>
<td>21.233</td>
<td>2</td>
<td>10.642</td>
<td>.632</td>
<td>.535</td>
</tr>
<tr>
<td>TYPE</td>
<td>21.283</td>
<td>2</td>
<td>10.642</td>
<td>.632</td>
<td>.535</td>
</tr>
<tr>
<td>Explained</td>
<td>61.620</td>
<td>4</td>
<td>15.405</td>
<td>.915</td>
<td>.461</td>
</tr>
<tr>
<td>Residual</td>
<td>102.743</td>
<td>65</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1088.364</td>
<td>67</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

66 cases were processed. 6 cases .0 pct were missing.

**Figure 11.** Mean Speaking Scores by Schedule Type (Raw Data)
Summary of Findings

This study was designed to assess the impact that various forms of block scheduling had on student performance in French I. The researcher designed a test based on the Virginia Standards of Learning for French I (1988) to measure the skills of listening, reading, speaking, and writing of French I students. The test was administered to students in 60 Virginia French I classes operating on one of three different schedules: 4x4 semester schedule, alternating day schedule, and a daily schedule. In addition to measuring student performance in the four skill areas, data were collected about both the length of time available for classroom instruction on each schedule and the amount of homework teachers on the various schedules expected their students to do. The findings as they relate to each of the research questions are stated below.

Research Question Number 1: Does the time allocated for learning in French I vary according to the schedule on which students are instructed?

This study revealed that there was a significant difference (p < .05) in the amount of time available for learning among the three scheduling groups. The classes that met on a daily schedule had significantly more hours ($M = 153.0667, SD = 11.5090$) available for classroom instruction than those that met on the 4x4 and alternating day schedules. There was no significant difference in the number of hours available for classroom instruction between the 4x4 classes ($M = 135.0588, SD = 3.6949$) and the alternating day classes ($M = 140.1703, SD = 10.2842$).
Research Question Number 2: Does French I student performance vary according to the schedule on which students are instructed (4x4, alternating day, or daily schedule) as measured by scores on end-of-course tests in speaking, writing, listening, and reading?

This study found that there was not a significant difference (p < .05) in the performance of French I students in the skills of speaking, writing, listening, and reading as measured by end-of-course tests developed by the researcher. The results of the four skills tests are presented in Table 21.

Table 21

<table>
<thead>
<tr>
<th>Test</th>
<th>4x4 Mean Score</th>
<th>Alternating Day Mean Score</th>
<th>Daily Mean Score</th>
<th>Statistically Significant Difference at p &lt; .05?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listening</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Perfect Score = 22)</td>
<td>M = 10.6118 SD = 3.4185 n = 17 classes</td>
<td>M = 10.7522 SD = 2.1578 n = 23 classes</td>
<td>M = 10.6750 SD = 2.7162 n = 20 classes</td>
<td>No</td>
</tr>
<tr>
<td>Reading</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Perfect Score = 15)</td>
<td>M = 6.5882 SD = 3.0812 n = 17 classes</td>
<td>M = 6.5565 SD = 2.2707 n = 23 classes</td>
<td>M = 6.9750 SD = 1.9558 n = 20 classes</td>
<td>No</td>
</tr>
<tr>
<td>Writing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Perfect Score = 24)</td>
<td>M = 9.4000 SD = 6.3941 n = 20 students</td>
<td>M = 11.4167 SD = 4.5101 n = 24 students</td>
<td>M = 9.8333 SD = 3.9084 n = 24 students</td>
<td>No</td>
</tr>
<tr>
<td>Speaking</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Perfect Score = 25)</td>
<td>M = 9.6667 SD = 4.3386 n = 18 students</td>
<td>M = 11.2917 SD = 4.5347 n = 24 students</td>
<td>M = 10.2083 SD = 3.4005 n = 24 students</td>
<td>No</td>
</tr>
</tbody>
</table>
Research Question Number 3: Does the quantity of homework that teachers assign to their French I students vary according to the schedule used (4x4, alternating day, or daily schedule) as described in a self-report instrument from teachers?

This study found that there was no significant difference (p < .05) in the quantity of homework that teachers assigned to their French I students based on the schedule that was used for instruction. The results of the data collection on homework expectations by scheduling format are presented in the table below:

Table 22

Hours of Expected Homework for all Groups (Raw Data)

<table>
<thead>
<tr>
<th>Hours of Homework</th>
<th>4x4</th>
<th>Alternating Day</th>
<th>Daily</th>
<th>Statistically Significant Difference at p &lt; .05?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M = 37.2794</td>
<td>M = 42.8804</td>
<td>M = 51.0000</td>
<td>No</td>
</tr>
<tr>
<td>Outside Homework</td>
<td>SD = 10.3667</td>
<td>SD = 19.3482</td>
<td>SD = 20.1540</td>
<td></td>
</tr>
<tr>
<td>Expectations in</td>
<td>n = 17 classes</td>
<td>n = 23 classes</td>
<td>n = 20 classes</td>
<td></td>
</tr>
<tr>
<td>Hours</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-Class</td>
<td>M = 11.3471</td>
<td>M = 5.8696</td>
<td>M = 5.6250</td>
<td>No</td>
</tr>
<tr>
<td>Homework in Hours</td>
<td>SD = 12.9024</td>
<td>SD = 13.2257</td>
<td>SD = 9.3088</td>
<td></td>
</tr>
<tr>
<td></td>
<td>n = 17 classes</td>
<td>n = 23 classes</td>
<td>n = 20 classes</td>
<td></td>
</tr>
</tbody>
</table>
Chapter 5: Summary, Discussion, and Recommendations

A summary of the findings of the research study along with a discussion of how these findings relate to research in the areas of alternative scheduling practices and foreign language education are presented in this chapter. In addition, the implications of the research findings for administrative practice are discussed and possible directions for future research are recommended. The following conclusions, interpretations, and recommendations should be considered in light of the limitations of this study which were as follows:

1. The results of this study may be generalizable only to ninth grade students in French I.

2. This study did not control for different teachers, different teaching strategies, or different locations.

3. There was some variation in the length of the class periods, even within each scheduling format.

4. Validity and reliability were potential problems because the measurement instrument used was a new instrument designed and field tested by the researcher.

5. Although French I classes in all high schools in Virginia were given the opportunity to be a part of this study, the classes that actually participated were volunteered by their teachers, thus the sample was not selected randomly.

6. The students who participated in this study were those who returned both the student consent form and the parental permission form. Thus the sample was not drawn from all available students.
Summary of Findings

Research Question Number 1: Does the time allocated for learning in French I vary according to the schedule on which students are instructed?

This study revealed that the students who were taught on the daily class schedule had significantly more time available for instruction (p < .05) than those taught on either the 4x4 schedule or the alternating day schedule.

Research Question Number 2: Does French I student performance vary according to the schedule on which students are instructed (4x4, alternating day, or daily schedule) as measured by scores on end-of-course tests in speaking, writing, listening, and reading?

This study found that there was not a significant difference (p < .05) in the performance of French I students in the skills of speaking, writing, listening, or reading as measured by end-of-course tests developed by the researcher.

Research Question Number 3: Does the quantity of homework that teachers assign to their French I students vary according to the schedule used (4x4, alternating day, or daily schedule) as described in a self-report instrument from teachers?

This study found that there was no significant difference in the quantity of homework that teachers assigned to their French I students based on the schedule that was used for instruction.
Discussion of Findings

There are several substantive areas in the findings of this study, both within and outside of the research questions. The most important finding was that there was no significant difference in the performance level of students from the three different schedule groups in any of the four skill areas: listening, reading, writing, and speaking. This will be discussed later in this chapter.

A second interesting finding was the wide range that occurred for every dependent variable, both among groups and within groups. These wide ranges were apparent in most of the skill test scores and contributed to the large standard deviations for these measures. The largest ranges occurred within the variable of expected annual hours of outside homework with some teachers in the alternating day and daily groups reporting that they assigned no outside homework during the course of the academic year. At the other end of the scale, some teachers on a daily schedule expected considerably more homework to be done than their colleagues on the 4x4 and alternating day schedules. The wide variation in scores and hours created large standard deviations in all of the analyses, thus contributing to the frequent finding that there was no significant statistical difference among groups.

Another factor which contributed to the wide range is the unusually low minimum score (.7000) in the reading tests of the alternating day group. This occurred because in one case, the majority of participating students did not respond to any of the reading questions in spite of the fact that the reading answer sheet was on the same page as one of the writing prompts to which they all responded.

A third finding of interest was that the mean scores in each of the skill area tests were low — below 50%. This phenomenon will be discussed later in the chapter as well.
Time Available for Classroom Instruction

The results in the area of time available for classroom instruction seem to be consistent with data collected in other studies (Canady & Rettig, 1995; Fairfax County, 1997; North Carolina Department of Public Instruction, 1996a, 1996b; Shortt, 1997; Shortt & Thayer, 1995, 1997). While the class periods on the 4x4 and alternating day schedules were longer than those on the daily schedule, the total time for instruction over the course of the year was significantly less on both the 4x4 schedule and the alternating day schedule. This finding was consistent with that in other studies.

This study, then, confirmed the fact that the classes that met every day for an entire school year did, indeed, have significantly more instructional time available than those that met for an extended class period on either a 4x4 semester schedule or an alternating day schedule. Authors of previous studies (Canady & Rettig, 1995; Shortt, 1997; Shortt & Thayer, 1995, 1997) pointed out, however, that “non-value-added” time was decreased on both forms of the block schedule by having fewer class changes, class starts, and class endings, thus possibly replacing some of the actual instructional time that had been lost.

Studies by Bloom (1968) and Carroll (1963) indicated that, among other factors, time played a critical role in student learning. Carroll (1963) reiterated that all students did not need the same amount of time to master a skill. Bloom (1968) found that, coupled with engagement rate and success rate, the amount of time that a student had to learn a new task was an important component of learning and achievement.

If the results of this study are taken at face value, one might challenge Bloom (1968) and Carroll (1963) in their belief that more time yielded more learning. It is also
possible to conclude that the classes in the two forms of block schedule gained some class
time by the deletion of "non-valued-added" time. However, the researcher did not collect
data related to this "non-value-added" time.

It is important, too, to look at the other elements that both Carroll (1963) and
Bloom (1968) mentioned as variables in learning. In addition to time, Carroll (1963) also
mentioned aptitude, quality of instruction, ability to understand, and perseverance. Bloom
(1968) felt that engagement rate and success rate were also critical factors in learning.
These findings reinforce, then, that time is only one element in the learning process and
that future researchers in the area of block scheduling might want to examine the other
variables that contribute to successful learning. Of particular interest might be the variables
of quality of instruction and engagement rate of students, i.e. how both students and
teachers are using the time that they have available for instruction.

Expected Homework

This study found that most teachers in all of the scheduling formats used
homework in some manner. While there was no significant difference in either the amount
of in-class homework allowed by teachers nor the amount of out-of-class homework
expected, students in all groups were generally expected to do some homework. There
was, however, quite a range of responses among the teacher estimates for expected
homework. For homework outside of class there was a total range of 90 hours, and for
homework in class the range was 45 hours. This indicates varying teacher views either on
the efficacy of homework or on the willingness of students to do it. A teacher who used
the alternating day schedule wrote: "I really don't give written homework unless the
student does not complete an in-class written assignment. Then he has to finish it for homework. But the only homework I give is studying, not written.” This comment seems to reflect one of the concerns voiced by the Wisconsin Association of Foreign Language Teachers (1995) that students in many longer class blocks were allowed to do their homework in class. A teacher on the daily schedule who estimated that her students needed to do 15 minutes per day of homework commented: “Some days I am lucky to have one-third of the students do an assignment that I may have spent one hour creating for them. However, I keep on trying!”

Given the information collected in this study and assuming a 180-day school year which is typical in Virginia, students on the 4x4 schedule were expected to do an average of 12 minutes of homework per day (1 hour per week) while the expectation for students on the alternating day schedule was 14 minutes per day (1 hour and 10 minutes per week), and for those on a daily schedule the average was 17 minutes per day (1 hour and 15 minutes per week). Even though classes in this study were not all meeting 5 days a week over a 180 day period, the numbers above have been converted to daily and weekly estimates for the purposes of comparison.

While it is impossible to estimate the amount of time that students spend on homework in other subjects, it would appear that given the typical minimum of 5 classes per day, students may be expected to do only 4-5 hours of homework per week rather than the 4-5 hours per night of homework suggested by Walberg (1991). Depending on the number of classes a student takes and the rigor of those classes, students may be expected to do more homework. However, it would be difficult for the average number of hours of

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homework done by American students to approach the estimated 8 to 9 hours of homework that students in other countries do per week (Walberg 1991).

A second consideration in the effectiveness of homework is whether or not students actually completed the homework assigned. This study did not collect data in that area. However, several researchers (Kelley & Kahle, 1995; Levine & Anesko, 1987) reported growing concerns among teachers that students either did not complete their homework or did not complete it correctly. Wallinger (1997) found that foreign language teachers typically checked their students' homework for completion but not for accuracy. Chen and Ehrenberg (1993), Kazmierzak, (1994), and Keith (1982) found that giving grades for homework completion rather than correctness tended to inflate grades so that they did not truly reflect what a student knew. This would be another area for future research in the role that both foreign language homework and homework in general play within the various scheduling formats.

A third area of interest in homework is the kind of homework assignments that teachers make, i.e. their purpose and the skill areas used in the assignments. Kazmierzak (1994) concluded that the issue was not the time spent on homework or its completion but rather the type of homework assignments that the teacher gave. Wallinger (1997) found that the skills of reading and writing were reinforced far more than the skills of listening and speaking in homework that was assigned by foreign language teachers. Further research on what constitutes effective foreign language homework would be beneficial.

A surprising finding was related to the fact that students were allowed to do, although the variation in hours of in-class homework (range = 45 hours) was not so wide as
that for out-of-class homework (range = 90 hours). This finding about in-class homework seemed to corroborate concerns expressed by the Wisconsin Association of Foreign Language Teachers (1995) which reported that teachers on a block schedule appeared to give their students more time in class to begin their homework, thus subtracting even further from instructional time. Teachers in this study reported that students on the 4x4 schedule were allowed to work on homework in class more often (M = 11.35 hours annually) than those on the alternating day schedule (M = 5.87 hours annually) and the daily schedule (M = 5.63). However, the difference was not statistically significant.

It was difficult to determine if homework done in class was actually a part of the assignment that was intended for out of class or whether it was in addition to the out-of-class homework. Several teachers indicated that they liked to give time for their students to begin their homework in class to make sure the students understood what to do. Others indications pointed to teachers on the longer class periods simply running out of things to do in class and turning to homework to fill the time. Either way, it would seem that this in-class homework would be taking time away from in-class instruction.

The results of this study may support findings by Bents-Hill and others (as cited in Thomas, 1992) and Barber (1986) that the amount of homework did not contribute significantly to a student's achievement test scores, competency test scores, or teacher-assigned grades. In fact, as homework time increased, student's grades remained the same, and in some cases decreased.

The results of this study challenge research by Cooper (1989) and Keith (1982) that concluded that increased time spent on homework had a positive effect on student grades.
However, for these studies, student grades were used as the measure of performance, and it is unclear whether or not those grades may have been inflated by the inclusion of a grade for homework completion rather than for accuracy.

This study has confirmed findings by many other researchers (Cool & Keith, 1991; Cooper, 1994; Copple, Kane, Levin, & Cohen, 1992; Foyle & Bailey, 1988; Keith, 1982; Thomas, 1992) that homework studies are hard to conduct with a high degree of reliability because of the difficulty in controlling or even documenting all the variables that impact the assigning and completion of homework. The problem is further compounded because researchers must rely so heavily on self-reports from teachers and students, thus leading to questionable accuracy about information reported. This proved true in the case of this study where there was no way to determine if teachers were being accurate in the information they reported in answers to a questionnaire.

**Foreign Language Learning**

The results of this study indicated that there was no significant difference in performance on listening, reading, writing, or speaking by students from any of the scheduling groups. The only comparable research study found was one conducted by Lapkin, Harley, and Hart (1997) in Carleton, Ontario, where seventh-grade students had been taught French for a constant amount of annual instructional time that had been distributed differently throughout the academic year. Students had been taught on one of three schedules: (a) 40 minutes per day for ten months, (b) 80 minutes per day for five months, or (c) a half day of instruction for 10 weeks.

The current research study supported their findings that there was no significant difference in results of tests on speaking and listening among any of the scheduling groups.
However, it challenged their findings in the skills of reading and writing. In the study by Lapkin, et al. (1997) students on both models with longer class periods outperformed those on the 40-minute class period in reading comprehension. Students in the half-day class outperformed those on the 40-minute class period in writing.

It is important to note several differences in the two studies. It is not clear whether or not the students who participated in the Canadian study were beginning French students. The sample was limited in that the students in only one class of each of the schedules of interest participated in the study. There was no schedule comparable to the alternating day schedule. In all of the schedules in the Canadian study, students received instruction every day but for varying lengths of time each day and for a varying number of days. Finally, the total time allowed for instruction remained constant in all of the schedules studied by Lapkin, et al. (1997), while the total time for instruction in the current research project varied according to the schedule used.

Since the researcher was able to find no other previous quantitative studies with which to compare end-of-course performance results in the four skill areas of listening, reading, speaking, and writing, it was difficult to know whether the results of this study in these areas were consistent with other similar studies. However, an attempt to place these results in the context of the research that does exist on second language acquisition follows.

The first component of the study to examine is the end-of-course test itself. In conjunction with the belief that language learning should be proficiency-based (American Council on the Teaching of Foreign Languages, 1986) (demonstration of actual skill
performance rather than knowledge about the skill), the instrument that was used was
developed as a proficiency-based test. It did not ask discrete questions about vocabulary,
grammar, etc. Rather, it placed language in a context where it was used for
communication. Thus a student who had used good learning strategies as proposed by
Oxford (1989) and Oxford-Carpenter (1985) might be able to navigate certain
components of the test successfully even though some words or constructs had not yet
been presented. In spite of questions that tested a fairly broad range of concepts and skills,
the scores on each skill-area test were very similar across the scheduling groups.

In terms of second language acquisition, it is impossible to determine exactly
where on the continuum the scores on the end-of-course test should fall. In other words,
should perhaps the scores of the 4x4 classes be higher because they had maximum daily
time for “comprehensible input” as defined by Krashen (1981, 1982) or should the scores
of the classes that met on a daily schedule be higher because they had significantly more
time available for overall instruction (Bloom, 1968; Carroll, 1963)? The fact that the
scores were similar may indicate that one balanced out the other.

Krashen’s (1981, 1982) notion of the “learner” vs the “acquirer” of language
seems to leave room to combine both the concept of learning and that of acquisition
working simultaneously. Indeed, this should be the case in a secondary foreign language
classroom where students are “bombarded” with the language in all its forms as well as
being exposed to the intricacies of the structure of the language. In fact, this is how
students are instructed in their mother tongue. They are bombarded by the sights and
sounds of the language from an early age, yet we still teach them about the structure of the
language to take their skills to an even higher level. This would allow room, then, for the belief that Krashen's (1981, 1982) ways of language development are not uniquely exclusive.

The fact that the mean scores in each of the four skill areas is so low (less than 50% in each area) was of interest to this researcher. However, it must be noted that since no cut scores (minimum passing scores) were established prior to the test administration, it was impossible to determine just where the scores should have fallen. The pattern of scores may indicate that a proficiency-based test is not appropriate or adequate to measure the kinds of differences that arise during instruction and the kinds of learning that occur on the individual schedules. Proficiency-based tests tend to emphasize the globalness of language for communication but do not ensure accuracy of performance. In other words, the message may be more important than the accuracy with which it is delivered.

In this context, the results can be examined in several ways. Perhaps the teachers on schedules with fewer instructional hours are teaching skills for basic communication but are eliminating some of the cultural, social, and historical aspects of language learning. The National Standards in Foreign Language Education Project (1996) emphasize the importance of a cultural context for language learning, and this research study did not measure that element. Yet the national standards emphasize that knowledge of the individual skills of a language does not guarantee comprehension of the larger aspects of communication and assimilation into the target society.

A second consideration is that perhaps a test with more discrete questions in each of the areas is necessary to detect differences among performance from students on the different schedules. Another way to organize the study would have been to develop a test
based on the content of a single French I textbook. However, in Virginia, school divisions are free to select their textbooks, so it would have been difficult to find a large enough sample that was willing to participate in each of the scheduling groups where all classes were using the same text.

Thus the Virginia Standards of Learning for French I (1988) was the only common corpus on which to base a measurement instrument. The low mean skill scores may also speak to the fact, then, that either (a) teachers are not teaching to the Virginia Standards of Learning for French I (1988) or (b) that students have not had sufficient practice in the skills called for in proficiency-based assessment. Perhaps maintaining a proficiency-based classroom is easier said than done, for it requires foremost that the teacher use the target language at every opportunity and that they require their students to use the language as well.

Another possibility may be that with the increasing demand for foreign language teachers and the expense and time involved for language teachers to spend time in the target countries, school divisions are forced to accept language teachers whose language skills are not adequate to maintain a proficiency-based classroom. The problem may be further complicated by having administrative personnel who are incapable of adequately evaluating teachers who are instructing in a foreign language.

Another possible explanation for the findings of this study is the type of assessment instrument used. With the publication of the national standards in foreign language education (National Standards, 1996), there has been a move away from focusing on each separate language skill, and instead, attempting to integrate all five skills (listening,
speaking, writing, reading, and culture) into a contextual framework. This seems like a more natural model for foreign language teaching because rarely do we use one language skill in total isolation from the others. Yet it is certainly possible to test each of the skills in isolation. The low mean scores on the tests administered as part of this study would seem to indicate that perhaps students were not accustomed to taking a proficiency-based test. The speaking tapes, in particular, revealed that most students were very reluctant to speak, and maybe not used to giving a speaking sample on tape. While it is possible that teachers may be conducting face to face interviews, it is more likely that the area of speaking assessment is one where both teachers and students could use some improvement.

The same may be true for the listening assessment, with this skill often being ignored on tests because of the difficulty of administering the test and doing make-up tests for students who were absent. Seven (3 4x4, 3 A/B, and 1 daily) of the 44 teachers who administered the test expressed concern that the speakers on the listening tape spoke too fast and too softly, and did not allow sufficient time for students to record their answers. One teacher on the alternating day schedule wrote: “You should know that the tape you provided for the listening portion of the exam was very difficult to hear. None of my students complained about not being able to hear it, but still, it could be a factor in your results.” A teacher using the 4x4 schedule wrote: “The pace of the dictation of Part A writing is extremely fast!! There is really not enough time to write the answer and hear the next word. Even though it’s repeated 3 times, the students were still blown away by the seeming impossibility of something they are very capable of doing.”
This is certainly possible since one speaker was a native speaker of French and the other had near-native proficiency in the language. However, they are both French teachers who are accustomed to giving dictation and listening programs to their own students. It is possible, too, that the concern arises from the fact that teachers are not exposing their students to French spoken by native speakers at a natural tempo. It should be mentioned here that all listening test items were read at least twice, and in some sections, three times.

In contrast, one teacher on the alternating day schedule who is also a native speaker of French commented on the excellent quality and content of the listening test, saying that it was far better than the audio tapes that went with her textbook. This begs the question then: “What is the appropriate level of listening practice and comprehension at the various levels of foreign language instruction?”

The writing test score was a composite of three separate writing sections, one of which was dependent on the audio tape. This section was a cloze dictation where students were to complete nine blanks based on a paragraph that was read to them. This exercise resulted from the standard of learning which read: “The student will produce in written form the sounds of the language”. A part of the low mean performance on the writing section may have been an extension of similar comprehension problems that occurred during the listening test.

The other writing prompts consisted of a picture and a written prompt to write a description. In both cases, a minimum number of sentences was suggested, but students were encouraged to write more if they could. Very few students took advantage of this opportunity. In fact most students wrote very repetitive sentences that barely approached the minimum. In several cases, the paragraphs were written in English.
The low mean scores on the reading test were a little more puzzling because the students had all the information they needed to answer the questions in front of them. However, good reading comprehension requires taking the time to read and analyze both the passage and the accompanying questions. It is apparent that many students did not take the time.

It is also possible that limited time was a factor in all of the scores because the test itself was timed. This was necessary to ensure that classes on all schedule types had an equal opportunity to complete the test. Since many of the class periods on the daily schedule were 50-60 minutes long, the test was timed to 55 minutes. Teachers did have the option of tearing the test in half and administering it over a two-day period if necessary to ensure sufficient time. Based on the condition of the test materials that were returned, only one teacher on a daily scheduled opted to do this.

In light of where the mean test scores fell, it may be important to consider that perhaps French I students do not have the depth of knowledge in language skills necessary to effectively demonstrate a difference in performance when compared by schedule types. Educators in the profession generally concur that language learning is a life-long pursuit, and that even in our native tongue, some continue to perfect their language skills while others do not. Perhaps, then, a longitudinal study or a study involving more advanced language students would yield different results if it were conducted with students who were more proficient in the foreign language. However, such a longitudinal study is probably not a possibility in the natural instructional setting of a school.
While it would be hard to be oblivious to the 12-year proficiency movement in foreign language education, teachers, as they assess their students, may have continued to prepare test questions that measure discrete units of grammar and structure rather than the ability to communicate in general. Tests of this nature are generally easier to grade and may also yield grades that are easier to justify to students and parents in a day where accountability is extremely important. The dilemma of global versus discrete assessment is one with which the profession will continue to struggle as some teachers strive for communication as a whole while others insist on perfection of performance before allowing their students to progress to the next level.

Another aspect of language acquisition which bears examination is that of use of time in the classroom. Several authors (Gardner, 1983; Klay & Compton, 1997; Munsell, Rauen, & Kinjo, 1988; Olliphant, 1990) pointed to the importance of using a variety of methods of teaching that appealed to multiple learners. Good foreign language teachers have already been incorporating many varied strategies into their lessons. The proficiency movement has led textbook publishers to produce a myriad of materials such as overhead transparencies, audio and video cassettes, CD-ROM's, black line masters, assessment packages, and many other ancillary materials to help teachers find ways to appeal to a variety of learners. Thus, foreign language teachers should have been among the most successful as teachers on the block had to change their teaching styles to shift from a shorter daily class period to a longer class period. Perhaps the finding that there was no significant difference in any of the skills among any of the scheduling groups indicates that foreign language teachers have truly demonstrated the flexibility that was required to make this change.
However, it is important to point out here that just because teachers may have made a successful change to the block schedule does not always mean that they or their students like it. There was no attitudinal measure associated with this study, primarily because much qualitative work has already been done in that area. However, the researcher received many unsolicited comments, both positive and negative, about schedules and student performance from teachers during the course of the study.

Of possible significance was the fact that six teachers on the 4x4 schedule were either unable to or opted not to administer the end-of-course test because of time constraints. While advocates claim that the 4x4 schedule offers optimal flexibility, this particular schedule seemed to allow little room for flexibility when weather conditions or other interruptions interfered with time available for instruction. One second semester 4x4 teacher wrote: “We are on [4x4] block scheduling, and I found myself struggling to fit everything in prior to the end of the semester. There were fewer days scheduled into the second semester than in the first. In addition, we lost many days due to flooding. The last few weeks of school were chaotic. Students were pulled out of my class for various reasons every day. . . . In the interest of my students, I decided that they needed to review for their final exam more than they needed to take your test.”

It would seem that comments such as the one above should be considered when moving to the 4x4 semester schedule, because it is a given that students will be gone from classes for field trips, inclement weather, and illness. Missing a series of days from a 4x4 schedule can interfere seriously with the time available for instruction. Since data were not gathered from the six 4x4 classes where teachers were pressed for time, it is not evident
whether their participation might have contributed to a negative impact on the mean scores of the 4x4 scheduling group.

Another factor to consider in analyzing the findings of this study, especially the scores on the skills tests, is that the sample consisted only of ninth grade students in French I. Several teachers commented that in their schools, ninth grade students in French I are often their weakest beginning students because stronger students have already begun their foreign language study in the middle school. One teacher on the 4x4 schedule wrote: “Please remember that high school ninth grade foreign language students are generally the weaker students. The ‘cream’ comes off in the eighth grade!!” This disparity among French I students might be an area for future research.

Related to this may also be the fact that some schools may “screen” students before they enter foreign language classes or may group them according to ability. No attempt was made to determine how students were chosen for the participating classes. Also, the tests of all participating students were used to arrive at the mean class score. These included the best with the worst. Several teacher comments reflected those written by a teacher on the alternating day schedule: “This is a very low-achieving class. At this point (January) I have 7 out of 12 failing.”

Other teacher comments related to the performance of their students on the end-of-course test related to student apathy in general. A teacher who used the alternating day schedule wrote: “Some students did not take this test seriously and I apologize for some of their written comments.”
While some teachers did promise their students rewards for taking the test, the actual results of the end-of-course test administered for this study generally had no effect on a student’s final grade. Thus there was no great incentive to take the test seriously. A teacher who taught on the daily schedule wrote: “[Student #1] marked his paper randomly. I asked him to be more thoughtful - but . . . .” and “[Student #2] removed her headset during the listening portion and seemed uninterested. She was one you had chosen for speaking. She had to make the tape twice. I’m still not sure it’s usable.”

Foreign Language Attrition

The results of this study indicated that attrition did not seem to play a large role in retention of language skills from the beginning to end of a level I course. Since the scores on the tests of all the language skills were so close, learning loss did not seem to be a factor. However, it may be a more important consideration in the sequencing of courses especially on a 4x4 semester schedule where student may have a long break between levels of language study. This would be an area for possible exploration in future research studies.

Additional Analysis

While the results of the analyses of the end-of-course test scores did not reveal a significant difference in skill performance in listening, speaking, reading, and writing among any of the groups, an additional question emerged as the researcher examined the data gathered. Although there was no significant difference among the mean scores on the various skills tests, the researcher noted the extreme variances of the test scores both within and among groups. This phenomenon led to a further analysis to determine whether
the use of the mean test scores was disguising a pattern of score distribution that might indicate that certain schedules were beneficial to strong students and detrimental to weak students.

A chi-square test was used to determine if scores of the students in each of the treatment groups met expected representation in each quartile of the score distribution. The analysis showed that students instructed on the 4x4 schedule were over-represented in the bottom quartile and were observed as expected in the top quartile on the listening and reading tests. The scores of students instructed on the alternating day and daily schedules were observed as expected in the bottom quartile, but were over-represented in the top quartile.

For the subjective tests in speaking and writing, the chi-square test did not indicate any unusual score distributions. Such results may have occurred for several reasons. First, the number of cases used in the speaking (66) and writing (68) analyses was much smaller than that used in the listening (290) and reading (290) analyses. Also, the skills tested were different as was the scoring system. A rubric was used to score both the subjective listening and reading tests. This might explain why the results of the four analyses were dissimilar.

The results of these further analyses, while not a part of the original study, would seem to indicate that the 4x4 schedule may pose a problem for some students, primarily those who have difficulty in French I. One possible explanation for this occurrence is the accelerated pacing found on the 4x4 schedule. Due to poor work habits, absences, or lack of comprehension and motivation, some students may fall behind more quickly on the 4x4
schedule than on a schedule where classes meet over the extended year. Teachers who instruct on the 4x4 schedule should attempt to identify weak students early and provide support and assistance to help them succeed.

**Implications for Educational Leadership and Foreign Language Instruction**

The results of this study seem to point to the teacher as a critical component in the success of foreign language instruction on any schedule. An important consideration in the success of moving to a block schedule is the assurance to teachers that they will have the training and materials needed to adapt to the longer class periods. While publishers produce many materials to help teachers vary their instructional strategies and techniques, not all teachers are able to have access to them either from lack of financial support or from ignorance that they exist. Educational leaders should make every effort to help teachers secure and know how to use the materials that would help them in the classroom.

A second caveat results from the fact that this research study did not contain an attitudinal component. In spite of the statistical outcomes of the end-of-course tests, it was clear from teacher comments that many teachers are still not sold on the use of a block schedule for foreign language instruction, and this has been reflected in other research as well (Boarman & Kirkpatrick, 1995; Davis-Wiley & Cozart, 1996; deLopez, 1996; Fairfax County (VA) Public Schools, 1996; Guskey & Kifer, 1995; Hamdy, 1996; North Carolina Department of Public Instruction, 1996b; Shortt & Thayer, 1995). This would seem to call for further research into exactly what it is that continues to make foreign language teachers feel that their students are not learning so much on a block schedule as they did when they were instructed on a daily schedule. Perhaps it is the fact
that affective aspects of foreign language learning such as culture, history, and social customs may have to be eliminated as part of the curriculum to make way for instruction in the obvious skills of listening, speaking, reading, and writing. Yet the national standards in foreign language education include these affective components in their five goal areas of communication, cultures, connections, comparison, and communities.

A third consideration is the preparation that teachers have before they enter the classroom. While factors such as student motivation, value of the reward, strategies used by the learner, and individual personality contribute to a student's success in foreign language learning (Beebe, 1984; Trosborg, 1984; Wong-Fillmore, 1979), the skill of the individual teacher in influencing these factors is very important. This would imply that educational leaders must start at the beginning and seek to hire teachers who have, above all, good skills in using the target language and are knowledgeable about foreign language instructional practices, especially with reference to proficiency-based instruction (American Council, 1986) and the national standards in foreign language education (National Standards, 1996).

It is the conclusion of this researcher that another component of ensuring quality instruction would be the ability of administrators to properly evaluate teachers who are presumably teaching in a foreign language. This would seem to indicate that teacher evaluators themselves should become familiar with proficiency-based instruction and the national standards in foreign language education.

An additional component for educational leadership and foreign language instruction in Virginia, and perhaps in other states that are beginning to set more rigorous
standards related to instructional time, lies in the fact that time for instruction in the core classes (English, mathematics, science, and social studies) has been mandated at a high level, possibly allowing the decay of time in non-core classes. This appears to be a particular problem in schools where classes meet for less than the prescribed 140 clock hours which was the minimum set by the Virginia Board of Education in the 1997 Standards of Accreditation. However, it has only recently become clear that this 140 hour minimum applies only to the core subjects, and that school divisions have some leeway to determine time allowed for elective courses, including foreign languages. The following personal communication (July 22, 1998) from Charles Finley, Principal Specialist for Accreditation with the Virginia Department of Education, sheds some interesting light on the situation:

The [Virginia] Board [of Education], in revising the SOA [Standards of Accreditation] made provisions for the schools that had schedules of fewer than 140 clock hours so that they would not immediately have to change. The 140 clock hour requirement for instructional time is only required for the four core academics of English, math, science and history. Any school may reduce the number of clock hours for non-core courses provided they have: the approval of the local superintendent and school board; assurances that the work in the course is equivalent to 140 clock hours; and, the students meet the objectives of the course. This could also apply to foreign language.
Thus teachers and leaders in foreign language education need to keep a vigilant eye on how time for instruction is distributed in their localities. While foreign language may not be a part of the core curriculum in many states, it is certainly an academic domain and warrants primary consideration in curriculum development and time for instruction.

An interesting aside to the situation in Virginia is that while foreign languages are not part of the core curriculum, foreign language study is a required component for an advanced studies diploma, albeit this study could be conducted at less than 140 clock hours a year. This return focus to seat time for awarding credit seems to bring us full cycle back to the concept of the 120-hour Carnegie Unit which was the concern that sparked the movement for block scheduling in the first place. It appears that the debate on time and learning continues to attract interest, with the pendulum swinging constantly from one camp to another, never resting in one position.

Recommendations for Future Research

1. Researchers such as Bloom (1968) and Carroll (1963) recognized that time was only one element in the learning process. Future researchers on the topic of block scheduling and foreign languages should explore other variables such as the quality of instruction and the engagement rate of students, i.e. how both students and teachers use the time in the classroom.

2. One possible limitation of the current study was the fact that the end-of-course test was not a test based on the content of a specific textbook. If a large enough sample of classes that used a common textbook could be located, it would be interesting to see if the results of a content-based test given to students on the various schedules would produce results similar to those of this study.
3. The amount of homework assigned to students did not appear to be a significant variable in this research study. However, no data were collected with regard to whether or how teachers graded or used the homework they assigned. Also of interest would be the kinds of homework that appear to be the most effective for foreign language students. Further studies in foreign language homework would be of interest and benefit.

4. The concept of foreign language attrition was not explored thoroughly enough in this study. Of great interest to many foreign language educators would be the results of a study that measured learning loss during the hiatus between levels of language study. This could be accomplished by giving a test at the end of level I for example, and the same or a similar test at the beginning of level II whenever the student enrolls for the next course. Given the schedules that are being considered, this time gap could be anywhere from a few days to over a year.

5. There was some indication that the knowledge base that students had developed by the end of the first year of language study was not yet deep enough to show disparate results on an end-of-course test. It may be important to conduct similar studies at different levels and in different foreign languages to determine if the results paralleled those from this study. For example, a comparison of skill test results after four years of language study would reveal the cumulative effects of study on the different schedules.

6. Some teachers felt that the sample used for this study (ninth graders in French I) produced the weakest foreign language students because the strongest students had begun their foreign language study in middle school. Thus, a study comparing the performance of middle school versus high school foreign language students might be of interest.
Appendix A

Correspondence Related to Request to Participate in the Study and to Conduct Research
CALL FOR PARTICIPATION

The College of
WILLIAM & MARY

School of Education
P.O. Box 8795
Williamsburg, Virginia 23187-8795
FAX: 757-221-2988

Robert J. Hanny
Professor
Phone: 757-221-2334
E-mail: rjhann@facstaff.wm.edu

August, 1997

Dear Fellow French Teacher:

As a long-time French teacher and current doctoral candidate at the College of William and Mary, I have been interested in the impact of block scheduling on learning and teaching foreign languages. Consequently, I have decided to write my dissertation on the effects of alternative scheduling on student performance in French I.

I wish to inform you of this study which will take place during the 1997-98 school year and to ask if French I teachers and students in your school would participate. I am working very closely with Dr. Thomas Shortt and David Cox in the Virginia Department of Education on examining the research behind block scheduling and how block scheduling impacts student achievement in foreign language learning. My study will focus on the importance of time and learning including class extension assignments such as homework, test preparation, etc. As you can imagine, these are very important issues for teachers, and I hope you are willing to contribute to the study.

I will be looking at the performance of French I students who have studied under three different schedules: traditional 6/7 period day, 4 x 4 block schedule, and alternating day block schedule. Participating students will take an end-of-course test based on the current Virginia Standards of Learning for Foreign Language Learning. Even if your school does not use block scheduling, your participation is needed in the traditional schedule pool.

As teacher participants in the study, you will be asked to do the following:

- Distribute and collect permission slips for students in your French I class(es) who will participate in the study. I will provide the permission slips.
- Work with your guidance department to collect the Stanford 9 standardized test score for 9th grade students in your class. These scores will be used to establish pre-existing differences and will be reported anonymously by class.
- Near the end of the course, administer a 45 minute test to all students in the pre-selected French I class(es). All students will take the portions of the test that include reading, writing, and listening. The listening portion of the test will be provided on a cassette tape that the teacher will play in class. Only randomly selected students will make an audio tape to permit assessment of speaking skills.
- Keep a two-week log of the kind of homework assignments you give and your estimate of how much time it will take for students to complete them.
Collect and return all test copies, answer sheets, logs, permission slips, standardized test scores as they are needed throughout the school year.

While I do not have funds to compensate you for your participation in the study, I will acknowledge you, your students, and your school (if you so choose) in my dissertation. If you are interested, I will also provide you with a copy of the results of the study. Since I will not have all of my data back until June 1998, the study will not be complete until the fall of 1998.

I have provided a response card for you to use in replying to my call for participation. In order to have a valid and reliable study, I must have 30 classes for each scheduling group. Therefore, if your school has more than one French I class, they are each eligible to participate. Even if your school is not on a block schedule, I need your participation. Your chance of participation in the study depends on the response that I have from schools that use each of the scheduling formats. It is possible that all, some, or none of the French I classes in your school will be selected to participate. You will be notified whether or not classes in your school have been selected to participate.

Remember that the study is not looking at teacher effectiveness or student ability. It is concentrating on how time is allocated to instruction in French I classes. This study is not meant to reflect on the instruction provided by individual teachers. The results will be reported by scheduling group, not by school or by teacher.

I have enclosed an extra copy of this letter for your principal. Please discuss this opportunity with your French colleagues and your principal. Once I receive your reply card indicating your interest in participating in the study, I will follow the proper procedures for your school division to seek permission to do outside testing. This study may be the first to assess the impact of block scheduling on foreign language learning using statistical data. Your contribution to this research would be invaluable.

Yours truly,

Linda M. Wallinger
Doctoral Candidate

Robert J. Hanny, Ph.D.
Advisor

Please return the enclosed reply card by September 12, 1997. Many thanks for your interest and participation. I can be contacted as follows:

Linda M. Wallinger
Street Address
City, State, Zip Code
Home phone: (---) ---------
Work phone: (---) ---------
E-mail: e-mail address

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As a long-time French teacher and current doctoral candidate at the College of William and Mary, I have been interested in the impact of block scheduling on the learning and teaching of foreign languages. As a result, I have decided to write my dissertation on the effects of alternative scheduling on student performance in French I.

—, a teacher in your school division, has expressed interest in participating in this study. Before I proceed further, I would like permission to continue with this study in your school division. I have enclosed a brief description of how the study will be conducted and how it will benefit the field of education. Please feel free to contact me if you have questions.

If you are not the individual who has the authority to grant research permission for your school or if your school division has a policy that requires a formal application to conduct research, please forward my letter to the individual who oversees this process.

If you do have such authority and are willing for this study to continue in your school, please sign and return the enclosed permission form (or one used by your school division) as soon as possible. I hope to know whether or not I could proceed with the study by the first of November. Thank you very much for your interest and cooperation.

Sincerely,

Linda M. Wallinger
Doctoral Candidate

Robert J. Hanny, Ph.D.
Advisor

Please return the enclosed permission form as soon as possible. Many thanks for your interest and cooperation. I can be contacted as follows:

Linda M. Wallinger
Street Address
City, State, Zip Code
Home phone: (—) ———
Work phone: (—) ———
E-mail: I e-mail address

Chartered 1693
RESEARCH PERMISSION FORM

The College of
WILLIAM & MARY

School of Education
P.O. Box 8795
Williamsburg, Virginia 23187-8795
FAX: 757-221-2988

Robert J. Hanny
Professor
Phone: 757-221-2334
E-mail: rjann@facstaff.wm.edu

Permission to Do Research
1997-98 School Year

I grant permission for French I students and teachers in my school/school division to participate in the dissertation research study entitled "The Effects of Alternative Scheduling on Student Performance in French I" conducted by Linda M. Wallinger, a doctoral student at the College of William and Mary. I understand that teachers and students may withdraw from the study at any time without penalty but that such withdrawal may jeopardize the results of the study.

Please print:

Name: ______________________________________________________________________________

Title or position: _____________________________________________________________________

School Division or School: ____________________________________________________________

Address: ____________________________________________________________________________

Telephone number: (_________) _______________________________________________________

Please sign:

Name: ________________________________ Date: ________________________________

Title: ________________________________

Comments or additional information:
____________________________________________________________________________________

____________________________________________________________________________________

Please return this permission form (or one used by your school division) as soon as possible. Many thanks for your interest and cooperation. I can be contacted as follows:

Linda M. Wallinger
Street Address
City, State, Zip Code

Home phone: (___) _______
Work phone: (___) _______
E-mail: e-mail address

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I am a willing participant in the doctoral research study entitled “The Effect of Alternative Scheduling Practices on Student Performance in French I” conducted by Linda M. Wallinger from the College of William and Mary.

I understand that my participation in the study will include the following:

• Distribute and collect permission slips for students in my French I class(es) who will participate in the study.
• Help to collect the Stanford-9 standardized test scores for 9th grade students in my class. These scores will be used only to establish pre-existing differences among classes and will be reported anonymously.
• Keep a two-week log or respond to a questionnaire about the kind of homework assignments I give and an estimate of how much time it should take students to complete them.
• Administer a 45-minute test to all students in the pre-selected French I class(es).
• Collect and return all permission slips, standardized test scores, homework logs, test copies, and answer sheets as they are needed throughout the school year.

I understand that I may withdraw from the study at any time but that such withdrawal may jeopardize the results of the study.

Teacher’s signature: _________________________________________________

Date: __________________________________________________________________

School: __________________________________________________________________

Address: __________________________________________________________________

School Division: __________________________________________________________________

Chartered 1693
Dear Parents of Students enrolled in French I,

Your child’s French class has been asked to participate in a research study that I am conducting as a doctoral student in education at the College of William and Mary. My study is entitled: “The Effect of Alternative Scheduling Practices on Student Performance in French I”. I will be looking at the performance of French I students who have studied under three different schedules: traditional 6/7 period day, 4 x 4 block schedule, and alternating day block schedule.

I have already received permission from your school division to work with the selected French classes. Before I proceed, I need your permission for your child to participate in the study. Your child would participate in the following ways:

- He or she would sign a permission slip agreeing to participate in the study.
- He or she would take an anonymous test at the end of the French I course of study.
- If your child is a 9th grader, his or her Spring 1997 score on the Stanford 9 standardized test would be released to me anonymously so that I can establish whether or not there are any pre-existing differences among the classes that I am testing.

No names will be attached to the information provided above. The results of the study will be reported by scheduling group. No school, teacher, or student will be named to the information provided. Your child may withdraw from the study at any time without penalty although such withdrawal may jeopardize the results of the study.

After the study has been completed, I will share the results with the participating schools. I hope this study will help us learn about foreign language learning and instructional practices.

Thank you for your cooperation.

Sincerely,

Linda M. Wallinger, Doctoral Candidate
Robert J. Hanny, Ph.D., Advisor

______________

Child’s Name: ___________________________ Grade Level: ____________

Parent’s Approval: ___________________________

Date of Consent: ___________________________

If you have questions about this study, please feel free to contact me:

Linda M. Wallinger, Street Address, City, State, Zip Code * (—) ———
My dissertation advisor, Dr. Robert Hanny, could also answer questions about the study.

Chartered 1693
I am a willing participant in the doctoral research study entitled "The Effect of Alternative Scheduling Practices on Student Performance in French I" conducted by Linda M. Wallinger from the College of William and Mary.

I agree to take an end-of-course test in my French I class during the 1997-98 school year. **Ninth Graders Only**: I understand that my Spring 1997 score on the Stanford 9 standardized test will be released anonymously to Ms. Wallinger.

I understand that I may withdraw from the study at any time but that such withdrawal may jeopardize the results of the study.

Student's signature: _________________________________________________

Student's grade level: _________________________________________________

Date: _________________________________________________

School: _________________________________________________

School Division: _________________________________________________
Appendix B

Virginia Department of Education
Standards of Learning
French I
1988

Listening

Focus

In teaching the listening skill at Level I, you should concentrate on offering students sufficient practice in the comprehension of key vocabulary items and structures in memorized material. Listening materials should be familiar and should provide samples of even, standard speech. Topics should include familiar areas and contexts of student interest and experience.

Learner Objectives

L.I.1 The student will recognize and discriminate among the basic speech sounds in isolation and combination.

Descriptive Statement: Emphasis is on recognition of distinctive sounds in language focusing on minimal pairs, cognates, and similar sounding words.

L.I.2 The student will perceive placement of stress in individual words.

Descriptive Statement: Emphasis is on the importance of stress and where it falls in familiar and unfamiliar words.

L.I.3 The student will recognize rhythm and intonation patterns.

Descriptive Statement: Emphasis is on affirmative and negative statements, questions, commands, and exclamations.

L.I.4 The student will demonstrate understanding of words and expressions in varied contexts.

Descriptive Statement: Emphasis is on understanding main ideas on topics relating to family members, age, address, weather, time, daily activities and interests based on previously learned vocabulary and structures.
Speaking

Focus

In teaching the speaking skill at Level I, you should provide students with ample practice in communicating using short, memorized questions, statements, or formulae. You should pay particular attention to their making acceptable differentiation in sounds combined in groups of words and to emerging spontaneity and flexibility.

Learner Objectives

S.I.1  The student will reproduce sounds and words, using proper pronunciation and stress.

Descriptive Statement: Focus is on distinctive sounds in isolation, in combination, and in words.

S.I.2  The student will reproduce sentences using acceptable pronunciation, stress, rhythm, and intonation.

Descriptive Statement: Focus is on familiar phrases and simple sentences, including questions and commands.

S.I.3  The student will use the language to communicate effectively in directed activities.

Descriptive Statement: Focus is on asking and answering simple questions appropriately, and identifying familiar objects, persons, places, and events using learned materials.

S.I.4  The student will make acceptable daily use of the language in classroom communication.

Descriptive Statement: Focus is on communicating immediate needs using learned utterances. Essential topics include the names of basic objects, colors, clothing, family members, weather, weekdays, months, day’s date, and time.
Reading

Focus

In teaching the reading skill at Level I, you should concentrate on developing the comprehension of essential information in written material. This material should be based on previously learned vocabulary and structures. A variety of simple reading materials of high student interest should be available.

Learner Objectives

R.I.1 The student will associate the written form with the spoken word.

Descriptive Statement: The student progresses from the aural identification of sounds, words, and expressions to recognition of their written symbols.

R.I.2 The student will recognize structures essential to comprehension.

Descriptive Statement: This includes gender, number, verb endings, and word order.

R.I.3 The student will understand how punctuation and diacritical marks affect meaning.

Descriptive Statement: This includes questions, commands, exclamations, interjections, and declarative statements.

R.I.4 The student will read for functional purposes.

Descriptive Statement: This includes reading simple materials necessary for functioning in everyday situations: signs, menus, advertisements, timetables, and instructions.

R.I.5 The student will demonstrate reading comprehension.

Descriptive Statement: Focus is on recognition of essential information in previously studied or recombined materials.
Writing

Focus

In teaching the writing skill at Level I, you should provide students with sufficient opportunities to write using limited memorized material including personal and factual information. You should pay particular attention to the development of reasonable accuracy in using writing conventions, grammatical elements, and vocabulary.

Learner Objectives

W.I.1 The student will produce in written form the sounds of the language.

Descriptive Statement: Emphasis is on writing the correct letter symbols or combination of symbols for corresponding sounds of the language, in isolation and in words, phrases, and simple sentences.

W.I.2 The student will demonstrate accurate writing skills.

Descriptive Statement: Emphasis is on spelling, capitalization, punctuation, and using all diacritical marks correctly.

W.I.3 The student will write responses to questions and directed statements.

Descriptive Statement: Emphasis is on appropriateness of response using accurate vocabulary and structure.

W.I.4 The student will write guided sentences, dialogues, and paragraphs.

Descriptive Statement: Emphasis is on the recombination of previously learned vocabulary and grammatical elements to communicate personal and factual information.
Corpus of Grammar

This grammatical corpus should in no way be interpreted as a separate body of objectives; to do so would treat grammar as an end in itself and make it an impediment to learning.

The elements of this corpus are obviously cumulative and interrelated, and some interchange of grammatical elements among the levels may be possible. However, the items in the corpus are judged to be generally at the appropriate level.

It should also be noted that this listing of grammatical elements must not be interpreted as all-inclusive. Certain elements are not deemed essential to the four-year high school curriculum and can be left for pursuit on a later occasion.

The corpus has deliberately been spread over four years to encourage maximum skill development aimed at proficiency. In a proficiency-oriented curriculum, certain grammatical points can be initially presented as isolated vocabulary items.

Example:  
*Comment vous appelez-vous?*

*Je m'appelle __________.*

without a complete discussion of reflexive verbs.

Formal study of the structures represented by these items is more appropriate at the level indicated in this corpus. Each of the specified areas of study within the corpus should be viewed as a point of departure which leads to practice and culminates in proficiency.
Level I

Parts of Speech

Adjectives
agreement of regular adjectives
agreement of selected irregular adjectives
basic principles of position
possessive adjectives

Determiners
definite articles
indefinite articles
contractions:  à + le/les
d e + le/les

Nouns
gender and number

Pronouns
subject pronouns
on
tu vs. vous

Verbs
present tense of four regular conjugations (-er, -ir, -ir/-iss, -re)
irregular verbs - aller, avoir, être, faire
immediate future - aller + infinitive
commands

Structure
idiomatic expressions with avoir
idiomatic expressions with faire
idiomatic expressions with il y a, voilà
negative -- ne . . . pas
interrogatives -- intonation, est-ce que

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Appendix C

Homework Questionnaire
Homework Questionnaire

This questionnaire seeks to collect data about homework that is assigned in French I classes. Please answer the questions from the general standpoint of what you require from your French I students.

School: ______________________________ Teacher: ____________________________

Schedule:  4x4 Alternating Day Daily

1. As a rule, I allow students to work ______________ minutes in class on their French I homework assignment for the next class meeting.

2. I expect students to spend approximately ______________ minutes outside of class doing French I homework for every class/block period that I teach them.

3. Please feel free to share any other information about homework that you assign to your French I students:

_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________

Thank you for your thoughtful responses. Please return this questionnaire with the other materials requested by December 12, 1998 to my intermediary: Name, Street Address, City, State, Zip Code.
Appendix D

Instructions for Administering the End-of-Course Test ................................................. 206
End-of-Course Test .......................................................................................................... 209
Script for Listening Test ................................................................................................. 216
Answer Sheet .................................................................................................................. 221
Scoring Rubrics for Speaking and Writing ...................................................................... 223
DIRECTIONS FOR ADMINISTERING END-OF-COURSE TEST
Research Study
“The Effects of Alternative Scheduling on Student Performance in French I”

Thank you for continuing to work with this research study. The directions for administering the end-of-course test are included here. Also included with this mailing are the individual student test copies and answer sheets.

TEST COPIES AND ANSWER SHEETS

I have included enough test copies and answer sheets for students in your class(es) who returned both the completed student consent forms and parent permission forms. On the chance that a few more students may have returned the forms since you returned them to me, I have added a few extras. If you need more test copies or answer sheets, please contact me immediately so that I can provide them in time for the test administration. My phone number is (804) 740-4383.

TEST SECTIONS

The test consists of 4 different sections: listening, reading, writing, and speaking. All students who participate will take the listening, reading and writing components of the test. These 3 parts of the test together have been designed to take approximately 45-50 minutes and to be administered during one sitting. The listening test and writing dictation are recorded on a cassette tape which lasts 20 minutes. The reading and remaining writing sections should take an additional 25-30 minutes.

Listening. This test will be administered orally from the enclosed tape. Students will need to refer to pages 1 and 2 of the test copy for the listening test. The test has 22 questions, numbered 1 through 22 on side 1 of the answer sheet. (Questions 23, 24, and 25 will not be used at all on the answer sheet.)

Writing. The dictation for this test follows the listening test on the tape. Space is provided on both sides of the answer sheet for students to respond to the dictation and the 2 writing prompts. There is no reference to the writing test in the student’s test copy. All instructions are provided on the answer sheet.

Reading. The reading selections begin on page 3 of the test copy. Students should begin marking their answers on side 2 of the answer sheet, beginning with question number 26. The reading section ends with question number 40.

Speaking. Only 20 randomly selected students from each scheduling group will take the speaking test. Separate instructions and a blank cassette tape(s) are included with this mailing if one or more of your students have been selected to take the speaking component of the test.
Timing. In fairness to all groups, the test should be timed to 50 minutes. I am aware that some of the classes that meet daily have a period of only 50 minutes which may not leave enough time for distribution of materials, etc. If you need to administer the test in two parts, please administer the listening and writing portions on one day and the reading section on the next day. Tear the last two pages from the test copy before you distribute it to the students so that they do not have access to the reading test in advance. I would expect the listening and writing parts of the test together to take 30-35 minutes and the reading portion to take 15-20 minutes. Please time your student appropriately.

RETURNING MATERIALS

Please return all test copies, answer sheets, listening tapes, speaking tapes and scripts, etc. (both used and unused) within one week after you have administered the test. I have included a stamped-envelope for this purpose.

WHAT NEXT?

That’s it! I will contact you if I have questions about any of the data that you have sent me. The results of this study will not be available until the fall of 1998. The majority of the classes will take the test in June 1998. I will collect all the data, analyze them, and complete the dissertation as quickly as possible. If things go smoothly, I hope to defend the dissertation during the summer of 1998 and to have a brief report to all participants sometime during the fall of the 1998-99 school year.

Thank you very much for working with me on this project.
TESTING INSTRUCTIONS

1. You will need a cassette player to administer this test. Insert the listening cassette into the player.

2. Distribute to each student a test copy and a Scantron answer sheet. Students should use a No. 2 pencil for all portions of the test. They may also have scratch paper to make notes during any portions of the test. This scratch paper should be destroyed at the end of the test.

   Ask students to complete the identification information on their answer sheets: school code letter, student code number, date, and their grade level. A copy of the data sheet has been returned to you for your reference in providing this information.

   Please ask student not to write on the test copies because I would like to re-use them during the test administrations in June.

   Remind students to erase thoroughly any extraneous marks they may make on the portion of the answer sheet that will be scanned.

3. Once students have all the materials they need, start the listening tape. All further instructions will be provided in both oral form on the tape and in written form on the test copy. Once the listening test has started, do not stop the tape.

4. At the conclusion of the test, please collect all materials from the students. Destroy their scratch paper, and return the remaining materials to me.
"The Effects of Alternative Scheduling on Student Performance in French I"
Listening and Reading Tests
1997-98 School Year

Listening

A. Instructions: You will hear a French word repeated two times. On your answer sheet, darken the letter of the word that you hear. Each word will be read twice.

1. a. fille  
b. filles  
c. fils  
d. face  

3. a. soeur  
b. sur  
c. sole  
d. soir  

2. a. grain  
b. grande  
c. grand  
d. grond  

4. a. vin  
b. vingt  
c. vent  
d. vendent  

B. Instructions: Indicate whether what you hear is a statement, a question, a command, or an exclamation by darkening the correct letter on your answer sheet. Each sentence will be read twice.

5. a. statement  
b. question  
c. command  
d. exclamation  

7. a. statement  
b. question  
c. command  
d. exclamation  

6. a. statement  
b. question  
c. command  
d. exclamation  

8. a. statement  
b. question  
c. command  
d. exclamation  

C. Instructions: You will hear a question in French. On your answer sheet, darken the letter of the most logical correct response. Each question and the answer choices will be read twice.

b. Je m'appelle Pierre.  
c. Je vais bien.  
d. Je vais à l'école.  

b. Il est 4 heures.  
c. Je suis 14 ans.  
d. J'ai 4 frères.
11. f. Il fait un voyage.  
g. Il regarde la télé.  
h. Il fait ses devoirs.  
i. Il pleut.  

12. a. Il a 9 ans.  
b. Il a 3 soeurs.  
c. Il est midi.  
d. Il est professeur.  

b. Je vais très bien, merci.  
c. Je m'appelle Anne.  
d. J'habite en Virginie.  

D. **Instructions**: You will hear a brief paragraph followed by a question. On your answer sheet, write the letter of the response which best answers the question. Each paragraph and question will be read twice.

14. a. C'est un professeur âgé.  
b. C'est un jeune professeur.  
c. C'est un mauvais professeur.  
d. C'est un professeur populaire.  

15. a. Il est plus grand.  
b. Il est plus économique.  
c. Il est moins dangereux.  
d. Il va plus vite.  

16. a. Il est malade.  
b. Il n'aime pas Jacques.  
c. L'école commence de bonne heure.  
d. Il ne fait pas ses devoirs.  

17. a. Le camping est facile.  
b. Le camping est moins cher.  
c. Le camping est pour les riches.  
d. Le camping est pour les enfants.  

18. a. Ils vont aller en Californie.  
b. Ils vont parler des fêtes françaises.  
c. Ils vont aller à une réception à Paris.  
d. Ils vont visiter des palais importants en France.  

E. **Instructions**: You will hear a dialog followed by 4 questions. On your answer sheet, write the letter of the best answer for each question. The dialog and questions will be read twice.

19. a. un blouson  
b. un bracelet  
c. une bicyclette  
d. un bouchon  

20. a. 5 francs  
b. 10 francs  
c. 15 francs  
d. 25 francs  

21. a. à la banque  
b. chez son amie  
c. chez Monique.  
d. chez elle  

22. a. Le blouson est vendu  
b. Le bracelet n'est pas unique.  
c. La bicyclette est jolie.  
d. Le bouchon est superbe.
Reading

Do not use questions 23, 24, and 25 on the Scantron answer sheet. Turn to side 2 of the answer sheet and continue with question number 26. The listening test and reading test will be scored separately.

A. Instructions: Read the short passages and questions below. On your answer sheet, darken the letter of the correct response.


Comment peut-on caractériser le petit déjeuner français?

a. Les Français aiment un énorme petit déjeuner.
b. Les Français mangent très peu.
c. Les Français mangent seuls.
d. Les Français mangent toujours le petit déjeuner au restaurant.

27. Louise: Bonjour, M. Leveau. Ça va?
M. Leveau: Ça va bien. Qu’est-ce que vous voulez acheter aujourd’hui?
Louise: Donnez-moi, s’il vous plaît, un kilo de fraises, six pommes, et un demi-kilo de bananes.
M. Leveau: Voilà, Louise. C’est tout?
Louise: Oui, monsieur. À bientôt.
M. Leveau: Au revoir, Louise.

Où est Louise?

a. À la boucherie.
b. Au marché.
c. À la pâtisserie.
d. À la boulangerie.

28. <<La Route française>> est une petite compagnie américaine qui arrange un itinéraire spécial pour les vacances. Vous choisissez votre programme: le cyclisme, l’alpinisme, la chasse, les sports d’eau, ou la natation. Si vous préférez, vous pouvez choisir d’explorer en voiture une seule région de la France.

Quelle sorte de compagnie est <<La Route française>>?

a. Une agence de voyages.
b. Un magasin de bicyclettes.
c. Une école d’anglais.
d. Un magasin de sports.
29. Les pâtissiers LeBlanc préparent un énorme gâteau au chocolat. Ce grand gâteau est pour un dîner qui va célébrer le centième anniversaire de l'Opéra. On va passer deux semaines à préparer ce gâteau qui coûte douze mille dollars.

En quoi ce gâteau est-il différent des autres?

a. Il est gigantesque.
b. Il est fait de dollars au chocolat.
c. Il est d'une couleur bizarre.
d. Il chante.

30. En France il y a des centres pour la jeunesse. Là, les jeunes jouent au tennis de table, dessinent, dansent, écoutent des disques compacts, ou prennent un soda. On va dans une maison de jeunes pour rencontrer ses amis et pour faire la connaissance de nouveaux amis.

On va dans une maison de jeunes

a. quand on a des devoirs à faire.
b. quand on est fatigué.
c. quand on va s'amuser.
d. quand on a besoin d'argent.

B. Instructions: Read the passages and questions below. On your answer sheet, darken the correct answer.

Selection 1

le 3 mai

Chère Jacqueline,


Je suis en deuxième année au lycée. J'étudie l'anglais, l'histoire, le français, la biologie, et les maths. Mon cours préféré est, bien sûr, le français, mais j'aime aussi la géométrie.


Écris-moi bientôt. Je suis curieuse de savoir ce que tu fais en France.

Ton amie,

Catherine

31. Catherine habite

a. en Angleterre.
b. en Allemagne.
c. en France.
d. aux États-Unis.
32. Quel âge a la soeur de Catherine?
   a. 12 ans
   b. 16 ans
   c. 2 ans
   d. 6 ans

33. En plus du français, quel cours Catherine aime-t-elle?
   a. Les sciences.
   b. L'histoire américaine.
   c. Les maths.
   d. La géographie.

34. Quel temps fait-il généralement en Californie?
   a. Il fait très froid.
   b. Il fait beau.
   c. Il fait mauvais.
   d. Il fait du vent.

35. Pendant son temps libre Catherine
   a. écrit des lettres dans la cuisine.
   b. lit des poèmes.
   c. va à la plage.
   d. danse.

Selection II


Ils montent dans un autobus, et ils vont aux Invalides, un musée militaire intéressant. Quand ils entrent dans le musée, ils voient le tombeau de Napoléon I, empereur des Français au début du 19e siècle.


Puis les deux étudiants visitent la cathédrale de Notre-Dame, un des plus beaux exemples de l'architecture gothique.

Enfin, ils vont au Louvre, le musée le plus important de Paris. Là, ils voient des tableaux et des sculptures célèbre: la Joconde, la Victoire de Samothrace, et la Vénus de Milo.

À la fin de la journée, les deux jeunes gens sont heureux mais très fatigués.

36. Xavier et Guy sont
   a. deux frères.
   b. deux amis.
   c. deux pères.
   d. deux professeurs.
37. Ils sont heureux parce qu'ils
a. voient leurs familles.
b. étudient l'art moderne.
c. travaillent en France.
d. parlent français.

38. Ils visitent Paris
a. tout seuls.
b. avec un groupe de personnes.
c. avec leurs parents.
d. à pied.

39. Montmartre est
a. un fleuve à Paris.
b. un artiste célèbre.
c. un quartier où les artistes travaillent.
d. un quartier où il y a beaucoup d'étudiants.

40. Pour voir les chefs-d'œuvre, ils vont
a. au Louvre.
b. à Notre-Dame.
c. à la basilique du Sacré-Coeur.
d. aux Invalides.

The following questions were used with permission from French Practice and Testing / by Gail Stein, 1986, Amsco School Publications, Inc.: 17, 20, 21, 26, 29, 30, 31, 32, 34, 35, 39, 40.
SPEAKING TEST

All parts of this section will be spoken into a cassette tape.

Part A. Instructions: Read the following sentences with correct French pronunciations and intonation.

1. Quel temps fait-il?
2. Nous allons au cinéma.
3. Écoutez le professeur!
4. Tu ne finis pas la leçon.
5. Ça va? Oui, ça va.
6. Est-ce qu'elles aiment la classe de français?
7. Tu es américain, n'est-ce pas?

Part B. Instructions: Speak about both situations below briefly in French. Be sure to give all of the requested information. You may speak as long as you like. You have 2 minutes to think about what to say for both questions, but you may not read what you have prepared. Once you have started recording, you may not stop.

Speak about BOTH questions.

1. Briefly introduce yourself in French. Speak in complete sentences in French and include the following information:
   • your name.
   • your age.
   • where you go to school.
   • where you live
   • how many people are in your family.

2. Give a brief description in French of a trip that you are going to take to France. Speak in complete sentences in French and include the following information.
   • where you are going.
   • how you are going.
   • with whom you are going.
   • what you are going to do.
   • how long you are going to stay.
Script for Listening Test

This is the listening test and writing dictation for the end-of-course French I test administered as part of a research study entitled “The Effects of Alternative Scheduling Practices on Student Performance in French I”.

Before you begin, each student should have a test copy, an answer sheet, and a number 2 pencil. Do not proceed until all materials have been distributed.

Please write your school code letter, your student code number, the date, and your grade level in the box provided on side 1 of the Scantron answer sheet. Your teacher should be able to help you with this information. Please pause the tape until all information has been completed and all test copies have been distributed.

Now, let’s proceed with the listening test. Once the test begins, do not stop the tape.

A. Instructions: You will hear a French word repeated two times. On your answer sheet, darken the letter of the word that you hear. Each word will be read twice.

1. The student hears: fils
2. The student hears: grand
3. The student hears: soir
4. The student hears: vent

B. Instructions: Indicate whether what you hear is a statement, a question, a command, or an exclamation by darkening the correct letter on your answer sheet. Each sentence will be read twice.

5. The student hears: Attention! Regarde la voiture à droite!
6. The student hears: Il regarde le match de football.
7. The student hears: Tu regardes un film dans la classe de français?
8. The student hears: Ils ne regardent pas la télé ce soir.

C. Instructions: You will hear a question in French. On your answer sheet, darken the letter of the most logical correct response. Each question and the answer choices will be read twice.

9. The student hears: Comment allez-vous?
   a. Je suis bon.
   b. Je m'appelle Pierre.
   c. Je vais bien.
   d. Je vais à l'école.

10. The student hears: Quel âge as-tu?
    a. J'ai 14 ans
    b. Il est 4 heures.
    c. Je suis 14 ans.
    d. J'ai 4 frères.
11. The student hears: Quel temps fait-il?

The student sees and hears:
- Il fait un voyage.
- Il regarde la télé.
- Il fait ses devoirs.
- Il pleut.

12. The student hears: Quelle heure est-il?

The student sees and hears:
- Il a 9 ans.
- Il a 3 sœurs.
- Il est midi.
- Il est professeur.

13. The student hears: Comment vous appelez-vous?

The student sees and hears:
- J'ai 2 chats.
- Je vais très bien, merci.
- Je m'appelle Anne.
- J'habite en Virginie.

D. **Instructions:** You will hear a brief paragraph followed by a question. On your answer sheet, write the letter of the response which best answers the question. Each paragraph and question will be read twice.

14. The student hears:

Mme LeBlanc est mon professeur favori. Elle est sympathique et amusante. Elle écoute toujours les problèmes des élèves. **Quelle sorte de professeur est Mme LeBlanc?**

The student sees and hears:
- C'est un professeur âgé.
- C'est un jeune professeur.
- C'est un mauvais professeur.
- C'est un professeur populaire.

15. The student hears:

Je m'appelle Jean-Michel. Je vais à l'école en autobus. Je préfère l'autobus à la bicyclette. L'autobus est moins fatigant et plus rapide que la bicyclette. **Pourquoi est-ce que Jean-Michel préfère l'autobus?**

The student sees and hears:
- Il est plus grand.
- Il est plus économique.
- Il est moins dangereux.
- Il va plus vite.
16. The student hears:

C'est aujourd'hui lundi. René marche avec son copain Jacques. Ils n'aiment pas le lundi matin parce qu'il faut aller au lycée à 7 heures et demie. Pourquoi René n'aime-t-il pas le lundi matin?

The student sees and hears:

a. Il est malade.
b. Il n'aime pas Jacques.
c. L'école commence de bonne heure.
d. Il ne fait pas ses devoirs.

17. The student hears:

Cette année notre famille va faire du camping. Pourquoi? D'abord, c'est amusant. C'est la vie parfaite. Mais aussi, les hôtels sont très chers, et avec une grande famille, c'est difficile. Pourquoi cette famille fait-elle du camping?

The student sees and hears:

a. Le camping est facile.
b. Le camping est moins cher.
c. Le camping est pour les riches.
d. Le camping est pour les enfants.

18. The student hears:

Trente étudiants d'un lycée en Californie vont faire un voyage éducatif de deux semaines en France. Ils vont visiter Paris pour le 14 juillet, la fête nationale française. Pour célébrer cette fête, le Président de la République va inviter les étudiants au Palais de l'Élysée. A cette réception, ils vont parler aux habitants de Paris. Comment ces trente étudiants vont-ils célébrer cette fête?

The student sees and hears:

a. Ils vont aller en Californie.
b. Ils vont parler des fêtes françaises.
c. Ils vont aller à une réception à Paris.
d. Ils vont visiter des palais importants en France.
Instructions: You will hear a dialog followed by 4 questions. On your answer sheet, write the letter of the best answer for each question. The dialog and questions will be read twice.

The student hears:

Aujourd'hui Janine fait des achats avec son amie Monique. Dans une petite boutique, il y a beaucoup de belles choses.

— Oh! Regarde! Un joli bracelet! Il est superbe! Combien est-ce que vous vendez ce bracelet, monsieur?

— Je vends ce bracelet 25 francs, mademoiselle. Il est vraiment très joli.

— Oui, il est d'une rare beauté! Mais je n'ai pas 25 francs sur moi. J'ai 10 francs. Je vais retourner à la maison pour demander à ma mère les 25 francs. Il me faut ce bracelet. Il est extraordinaire!

Une heure après, Janine et Monique reviennent au marché avec l'argent.

— Oh! Le bracelet n'est plus là! Où est ce bracelet extraordinaire, monsieur? Ce bracelet rare! Ce beau bracelet!

— Je regrette, mademoiselle, mais on l'a acheté.

Janine et Monique vont partir quand le monsieur continue:

— Attendez! Attendez! Attendez, mesdemoiselles! J'ai beaucoup de bracelets exactement comme l'autre.

Le monsieur ouvre une grande boîte et il met sur la table 15 bracelets exactement comme l'autre.

— Choisissez, mademoiselle!

19. The student hears:

Qu'est-ce que Janine désire acheter dans la boutique?

The student sees:

a. un blouson
b. un bracelet
c. une bicyclette
d. un bouchon

20. The student hears:

Combien coûte-t-il?

The student sees:

a. 5 francs
b. 10 francs
c. 15 francs
d. 25 francs
21. The student hears:
Où est-ce que Janine va chercher l’argent?
The student sees:
a. à la banque  
b. chez son amie  
c. chez Monique.  
d. chez elle

22. The student hears:
Pourquoi est-ce que cette histoire est amusante?
The student sees:
a. Le blouson est vendu  
b. Le bracelet n’est pas unique.  
c. La bicyclette est jolie.  
d. Le bouchon est superbe

Now we will continue with part A of the writing test. On side 1 of the Scantron answer sheet, you will see a section that is titled “Writing Test and Answer Sheet”. Please look at part A and listen while the instructions are read to you.

Part A. Instructions: Listen to the passage that will be read and fill in the missing words. The passage will be read three times.

La saison que je préfère, c’est l’été. Généralement, il fait chaud. En juillet et août quand il n’y a pas de classes, je vais à la plage. Je nage dans la mer. Quand je rentre chez moi, je suis toujours bronzé(e).

La saison que je préfère, c’est l’été. Généralement, il fait chaud. En juillet et août quand il n’y a pas de classes, je vais à la plage. Je nage dans la mer. Quand je rentre chez moi, je suis toujours bronzé(e).

La saison que je préfère, c’est l’été. Généralement, il fait chaud. En juillet et août quand il n’y a pas de classes, je vais à la plage. Je nage dans la mer. Quand je rentre chez moi, je suis toujours bronzé(e).

This completes the taped portion of this test.

You should now continue with the reading test. Turn the answer sheet to side 2 which begins with question number 26. The reading test begins with question number 26 and ends with question number 40. When you have completed the reading test, finish the 2 paragraphs that you are requested to write on the answer sheet, one on each side.

Bonne chance!
La saison que je préfère c'est ________________. Généralement il fait ___________. En _______________ et août quand il n'y a pas ___________ classes, je ___________ à la ___________. Je _______________ dans la mer. Quand je rentre ___________ moi, je _______________ toujours bronzé(e).

Part B. Instructions: Write a brief but thorough paragraph in French about the topic below. Your paragraph should be at least 5 sentences long. It should be longer if you can think of more to say.

1. Describe your family. Give their names, ages, professions, physical descriptions, and personality descriptions.
Part C. Instructions: Write a thorough description in French of the following picture. Your paragraph should be at least 5 sentences long. It should be longer if you can think of more to say.

The drawing in this section was used with permission from French Practice and Testing I by Gail Stein, 1986. Amsco School Publications, Inc.
Grading Rubric for Writing

The writing section is to be graded by the researcher. The following evaluation criteria will be considered in all sections:

- the student's ability to write a paragraph that responds to the prompt.
- the accuracy of the student's spelling, capitalization, punctuation, and use of diacritical marks in the paragraph.
- the student's ability to use the correct word order and grammatical elements in asking questions or making statements.

**Part A**

The following scoring rubric was used:

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Nine of the 9 missing words in the dictation are spelled correctly, including diacritical marks.</td>
</tr>
<tr>
<td>8</td>
<td>Eight of the 9 missing words in the dictation are spelled correctly, including diacritical marks.</td>
</tr>
<tr>
<td>7</td>
<td>Seven of the 9 missing words in the dictation are spelled correctly, including diacritical marks.</td>
</tr>
<tr>
<td>6</td>
<td>Six of the 9 missing words in the dictation are spelled correctly, including diacritical marks.</td>
</tr>
<tr>
<td>5</td>
<td>Five of the 9 missing words in the dictation are spelled correctly, including diacritical marks.</td>
</tr>
<tr>
<td>4</td>
<td>Four of the 9 missing words in the dictation are spelled correctly, including diacritical marks.</td>
</tr>
<tr>
<td>3</td>
<td>Three of the 9 missing words in the dictation are spelled correctly, including diacritical marks.</td>
</tr>
<tr>
<td>2</td>
<td>Two of the 9 missing words in the dictation are spelled correctly, including diacritical marks.</td>
</tr>
<tr>
<td>1</td>
<td>One of the 9 missing words in the dictation is spelled correctly including diacritical marks.</td>
</tr>
<tr>
<td>0</td>
<td>None of the 9 missing words in the dictation is spelled correctly including diacritical marks.</td>
</tr>
</tbody>
</table>
Psets B and C

The following scoring rubric was used:

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Can communicate in writing in nearly perfect French. Descriptions go beyond the expected vocabulary for a beginning student. Uses the language creatively, with extensive first year vocabulary. Shows thorough command of the present tense as well as other learned tenses. There are no errors in spelling or agreement. The paragraph consists of 5 or more sentences.</td>
</tr>
<tr>
<td>7</td>
<td>Can communicate a message in writing intelligibly in simple declarative, negative, and interrogative sentences. Answers are mostly based on limited memorized material and simple fixed expressions with some signs of creating in the language. The present tense of common verbs can be used, but with some errors. There is a basic understanding of gender, though some errors in agreement may occur. Vocabulary includes the most common words and expressions necessary to cope with routine and basic survival situations. The paragraph consists of 5 or more sentences.</td>
</tr>
<tr>
<td>6</td>
<td>Can communicate most of the message intelligibly. There may be some errors in use of grammar, syntax, spelling, and accent marks, but most of these do not interfere seriously with the basic message. The paragraph consists of at least 5 sentences.</td>
</tr>
<tr>
<td>5</td>
<td>The message would be readily understandable to a native speaker/reader, but there are still errors in word use, verb conjugation, spelling, and/or diacritical marks. Vocabulary limitations sometimes result in an incomplete message. The paragraph consists of at least 4 sentences.</td>
</tr>
<tr>
<td>4</td>
<td>The message is more understandable, but there are gross errors in spelling and syntax. Vocabulary usage is limited. The paragraph consists of at least 3 sentences.</td>
</tr>
<tr>
<td>3</td>
<td>Communicates some of the message, but the meaning is greatly confused. Answers have garbled syntax. The paragraph consists of at least 2 sentences.</td>
</tr>
<tr>
<td>2</td>
<td>Communicates little of the message. The message is barely intelligible. Answers are mostly isolated words.</td>
</tr>
<tr>
<td>1</td>
<td>Communicates virtually none of the message intelligibly.</td>
</tr>
<tr>
<td>0</td>
<td>No response given.</td>
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</tbody>
</table>
Grading Rubric for Speaking

The speaking section will be graded by the researcher. The following evaluation criteria will be considered in both sections:

- acceptable pronunciation of major sound elements.
- use of appropriate stress, rhythm, and intonation in making statements, asking questions, or giving commands.
- accuracy in making statements and asking questions based on memorized expressions or formulae.
- expectation of some error in original statements and questions.
- focus on the student’s ability to communicate rather than on the syntactical correctness of the sentences.

Parts A and B

The following scoring rubric was used:

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<thead>
<tr>
<th>Score</th>
<th>Description</th>
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<tr>
<td>8</td>
<td>Can communicate verbally in nearly perfect French. Descriptions go beyond the expected vocabulary for a beginning student. Uses the language creatively, with extensive first year vocabulary. Shows thorough command of the present tense as well as other learned tenses. There are no errors in pronunciation and intonation.</td>
</tr>
<tr>
<td>7</td>
<td>Can communicate a verbal message intelligibly in simple declarative, negative, and interrogative sentences. Shows some creativity with the language; however, most answers are based on limited memorized material and simple fixed expressions. The present tense of common verbs is used with few errors. Vocabulary includes the most common words and expressions necessary to cope with routine and basic survival situations.</td>
</tr>
<tr>
<td>6</td>
<td>Can communicate a message intelligibly. Most answers are in short memorized sentences and fixed expressions, with some signs of creating in the language. There may be pauses and errors, but most of these do not interfere seriously with the basic message. Verbs in the present tense can be used; errors may occur, but rarely in the most common verbs. All requested information is provided.</td>
</tr>
<tr>
<td>5</td>
<td>Can communicate most of a message intelligibly, but errors in grammar and syntax interfere with the meaning. Some verbs are used, but most are unconjugated or misconjugated. Vocabulary limitations sometimes result in an incomplete sentence. Most requested information is provided.</td>
</tr>
<tr>
<td>4</td>
<td>The message would be understandable to a native speaker, but there are still errors in word use, verb conjugation, pronunciation, and/or intonation. Vocabulary limitations sometimes result in an incomplete message.</td>
</tr>
<tr>
<td>3</td>
<td>Communicates some of the message, with minimal intelligibility, but the meaning is greatly confused. Answers are mostly in isolated words or completely garbled syntax. Some of the requested information is provided.</td>
</tr>
<tr>
<td>2</td>
<td>Communicates a little of the message with minimal intelligibility.</td>
</tr>
<tr>
<td>1</td>
<td>Communicates none of the message intelligibly.</td>
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Appendix E

Results of End-of-Course Test Validation
Table E1

Results of the Panel of Experts’ Validation of the Listening Test

<table>
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<tr>
<th>Validation Question Number</th>
<th>Percentage of Experts Who Selected this Question as Essential &amp; Discriminating for this Part</th>
<th>Percentage of Experts Who Agreed That the Answer Given Was the Only Possible Correct Answer</th>
<th>Percentage of Experts Who Agreed That the Question Was Correlated to the French ISOL’s</th>
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**LISTENING - PART D**

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**LISTENING - PART E**

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<th>Validation Question Number</th>
<th>Percentage of Experts Who Selected this Question as Essential &amp; Discriminating for this Part</th>
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<th>Percentage of Experts Who Agreed That the Question Was Correlated to the French ISOL's</th>
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Table E2

Results of the Panel of Experts' Validation of the Reading Test

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<th>Validation Question Number</th>
<th>Percentage of Experts Who Selected this Question as Essential &amp; Discriminating for this Part</th>
<th>Percentage of Experts Who Agreed That the Answer Given Was the Only Possible Correct Answer</th>
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<td>Percentage of Experts Who Agreed That the Answer Given Was the Only Possible Correct Answer</td>
<td>Percentage of Experts Who Agreed That the Question Was Correlated to the French ISOL's</td>
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Table E3

Results of the Panel of Experts' Validation of the Writing Test

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<th>Percentage of Experts Who Selected this Question as Essential &amp; Discriminating for this Part</th>
<th>Percentage of Experts Who Agreed That the Question Was Correlated to the French ISOL's</th>
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Table E4

Results of the Panel of Experts' Validation of the Speaking Test

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Table E5

Item Analysis of Student Performance on the Listening and Reading Sub-Tests

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<th>Question Number on Field Test</th>
<th>Percentage of Students Who Answered the Question Correctly</th>
<th>Question Was Used in the Final Instrument</th>
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**The Evolution of the End-of-Course Test**

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| 3 | 3 | 21 (question modified) |
| 4 | 4 | 22 |

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References


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Vita

Linda Moody Wallinger

Birthdate: September 5, 1952
Birthplace: Richmond, Virginia

Education:

1994-1997 The College of William and Mary
Williamsburg, Virginia
Ed.S. in Educational Administration

1974-1976 University of Virginia
Charlottesville, Virginia
M.Ed. in Educational Administration

1970-1974 The College of William and Mary
Williamsburg, Virginia
B.A. in French