THE FLORIDA AGRICULTURAL AND MECHANICAL UNIVERSITY

COLLEGE OF EDUCATION

AN EXAMINATION OF SCHOOL SCHEDULING, COGNITIVE LEARNING STYLES, AND OTHER DEMOGRAPHIC VARIABLES ON THE PREDICTION OF FOREIGN LANGUAGE SUCCESS IN A HIGH SCHOOL FRENCH COURSE

By

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A Dissertation submitted to the Department of Educational Leadership & Human Services in partial fulfillment of the requirements for the degree of Doctor of Philosophy

Summer Semester, 2008
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DEDICATION

I wish to dedicate this dissertation to my mother, Mrs. Mary Frances Singleton. If only she had lived eight years more, she would have witnessed the completion of this study. However, I believe her spirit has been a part of this process.
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Abstract

This study investigated the relationship between (a) school scheduling type, (b) cognitive learning styles, (c) student ethnicity, (d) foreign language grade point average (FLGPA), and (e) gender. The Group Embedded Figures Test (GEFT), the Student Demographic Data Form (SDDF) was administered to 45 female and 23 male students who had completed the French End of the Course Examination (FECE): Level 1. A Kendall Tau-b Correlation Coefficient was employed to investigate relationships between the predictor variables and the criterion variable. The only item statistically significant was the FLGPA (tau-b = .655, p < .01). An Ordinal Regression analysis also found that FLGPA was the best predictor of academic achievement, which accounted for 59% of the variance. These results are consistent with reported in previous studies conducted in the United States. The findings indicated that student’s academic achievement scores were not associated with field dependency/field independency. The skewness of the sample was because participation in the study was voluntary. Recommendations for future research include replication with a larger sample, and use of a valid and reliable instrument to measure student achievement in French.
CHAPTER I

INTRODUCTION

High school reform remains a topic of considerable importance (Association for Supervision and Curriculum Development, 2006). Reform is greatly needed in order to (a) keep pace with opportunities made available by technological advances, and (b) utilize new knowledge about how students learn and how people improve productivity and enhance the quality of their organizations. Additionally, the need for public schools to change is strengthened by recognizing that teaching and learning are most effective when the diverse needs of all students are met (Act, 2007). Teachers and students perceive that the block scheduling reform movement is a step towards a knowledge base for effective teaching and learning (Canady & Rettig, 1995; Marshek, 1997). Furthermore, research on school reform purports that block scheduling has the potential to improve student achievement (Fletcher, 1997; Khazzaka, 1998). Some schools welcome the move to block scheduling to reduce: (a) school anxiety, (b) costs, and (c) the need for summer classes by allowing students to take more courses during the school year (J. Gugel, personal communication, September 2, 2006; Lewis, 2006).

Today, many educational issues have taken center stage as evidenced in the No Child Left Behind Act (NCLB) of 2001 and Year Round Schools Initiatives. One important issue is how to allocate sufficient time during the school day to improve student achievement (Carroll, 1990; Cawelti, 1994). This issue was addressed more than twenty years ago in the National Commission on Excellence in Education publication entitled, A Nation at Risk. Among the many recommendations in this report, the
commission recommended that high schools improve foreign language learning by requiring all students to take two years of a sequential foreign language. Two years of foreign language study was the only needed improvement that was strongly recommended by the commission. Many states, rather than strengthen foreign language instruction, simply required college bound students to complete two years of foreign language as a prerequisite for entrance into state universities and colleges (Rachlin, 2005). Additionally, the report recommended the reorganization of the school day by expanding the available instructional time to meet the needs of slower learners, as well as gifted students, in order to improve foreign language performance.

In order to address the instructional time component of the report, many public high schools and school boards adopted one of two popular and widespread alternative scheduling programs: (a) the 4 x 4 block, or (b) the A/B alternating schedule (Arnold, 2002; Lare, Jablonski, & Salvaterra, 2002; Rikard, & Banville, 2005; Salvaterra, Lare, Gnall, & Adams, 1999; Trenta, & Newman, 2002).

The traditional instructional schedule requires teachers to organize their class schedules into six, seven, eight, or nine daily periods. The time spent in each class ranges from 40 to 60 minutes depending on the number of periods (Nichols, 2005). While there are different forms of block scheduling the most popular form is the 4 x 4 schedule (Kienholz, Segall, & Yellin, 2003). In this schedule students have only four periods per day and each period lasts for 90 minutes. The school year is split into two yearly semesters and students switch classes in the middle of the year (Kienholz, et al., 2003). In this schedule, a year of instruction is completed in one semester.
In some studies, block scheduling has been found to improve overall grades (Deuel, 1999). Some schools have reported more students on the honor roll (Lare, Jablonski, & Salvaterra, 2002). However, other studies have reported an increase in student failure rates and a decline in standardized test scores (Lawrence & McPherson, 2000).

For foreign language teachers, the most important contribution a block schedule can provide is that students can continue their language studies beyond the normal two year program (Blaz, 1998). In the traditional program, students can only enroll in one level of foreign language annually. In the block schedule, students desiring additional foreign language instruction can participate in dual-enrollment courses in college. Additionally, schools can add an additional level of high school foreign language to their curriculum. As block scheduling continues to permeate school districts, it is important to determine if block scheduling and other associated variables are improving student achievement.

Statement of the Problem

Throughout the United States, many school districts are altering instructional time by adopting either (a) the 4 x 4 block schedule or (b) the A/B alternating schedule in an attempt to enhance student achievement (Chang, 2006; Hancock, 2006). Kosanovic (1992) stated that 4% of high schools in the United States were using some form of block scheduling. However, three year later, Hackman (1995) and O’Neill (1995) both reported that over 40% of the high schools in the United States had implemented some version of block scheduling. O’Neill (1995) also reported that block scheduling has been widely implemented in (a) Colorado, (b) Florida, (c) North Carolina, (d) Virginia, and
(e) Texas. Roth (1997) reported that some 50% of all high schools in the United States had implemented, or were in the process of implementing block scheduling. Gullett (2006) reported that as many as 50% of the American high schools had tried a form of block scheduling by 2000. In the State of North Carolina, the estimate was as high as 74% had tried a form of block scheduling (Canady & Rettig, 1999).

The Florida Educational Research Council commissioned a study and found that block scheduling was employed at as many as 200 Florida High Schools. Of those 200 Florida high schools, only five schools reported having used block scheduling for five years or more. Block scheduling was a new experience for many high schools. The change in scheduling has affected administrators, teachers, students, and parents (Dow & George, 1998). Some educators suggested that block scheduling has the possibility of improving student achievement (Queen, 2003; Shortt & Thayer, 1999). However, a correlation between block scheduling and student achievement has not been fully established (Hackmann, 1999).

A review of the literature finds only a few studies that have examined the effects of block scheduling on specific school subjects (The College Board, 1998). According to Lewis, Winokur, Cobb, Gliner, and Schmidt (2005), research studies at the high school level have only examined the effects of block scheduling on (a) science (McCreary & Hausman, 2001; The College Board, 1998), (b) English (Brake, 2000; Schreiber et al., 2001; The College Board, 1998), (c) mathematics (Brake, 2000; Schreiber et al., 2001; Walker, 2000), and (d) history (The College Board, 1998). Additionally, Lewis, Dugan, Winokur, and Cobb (2005) examined the effects of block scheduling on high school students achievement in math and reading through an ex post facto longitudinal research
design. A review of the literature is void of any study examining the effects of block scheduling on the achievement of students studying French at the high school level.

Most of the research has investigated the relationship between cognitive, affective, personality, and demographic variables in predicting foreign language achievement (Onwuegbuzie, Bailey, & Dailey, 2000). One study investigated the relationship between (a) cognitive, (b) affective, (c) demographic variables, and (d) instructional practices in relationship to foreign language achievement (Gersti, 2002). Only two studies (Lapkin, Harley, & Hart, 1997; Wallinger, 1998) examined the effect of block scheduling on student achievement in French at the middle school level. In a Canadian study, Lapkin et al. found differences in favor of block scheduling. Their study revealed that three quarters of the students reported that the longer class periods in both the 4 x 4 semester, and AB plan made it easier to speak French and interact with the teacher. But a similar majority of students reported being (a) tired, (b) less attentive, and (c) bored in the longer French periods than in the shorter periods in the traditional scheduling plan. In a United States study, Wallinger (1998) found no differences in student achievement in the block or the traditional schedule in French at the middle school level.

Due to the lack of empirical research, and the gap in the literature related to block scheduling and student achievement in French at the high school level, this study is needed. Specifically, more research is needed to determine whether there is a link between (a) alternative scheduling, (b) cognitive learning styles, and (c) student achievement at the high school in French.
Purpose of the Study

The first purpose of this study was to examine the relationship between (a) block scheduling, (b) cognitive learning styles, (c) ethnicity, (d) foreign language grade point average (FLGPA), and (e) gender and their impact on students’ French End of the Course Examination (FECE): Level 1 scores. The second purpose of this study was to investigate whether (a) school scheduling types (block schedule, 7th period rotating schedule, A/B alternating schedule, or the traditional schedule), (b) cognitive learning styles, (c) student ethnicity, (d) foreign language grade point average (FLGPA), and (e) gender can predict student’s success in French 1, as measured by the French End of the Course Examination (FECE): Level 1 scores.

Research Questions

Specifically, the study will answer the following questions:

1. Is there a relationship between school scheduling type (block schedule, traditional schedule, A/B alternating schedule or seven period rotating schedule) and students’ academic performance on the French End of the Course Examination (FECE): Level 1?

2. Is there a relationship between cognitive learning styles, as measured by the Group Embedded Figures Test (GEFT), and students’ academic performance on the French End of the Course Examination (FECE): Level 1?

3. Is there a relationship between student ethnicity, as a predictor variable, and students’ performance on the French End of the Course Examination (FECE): Level 1?
4. Is there a relationship between student gender, as a predictor variable, and students’ academic performance on the French End of the Course Examination (FECE): Level 1?

5. Is there a relationship between student’s grade point average (GPA), as a predictor variable, and student’s academic performance on the French End of the Course Examination (FECE): Level1?

6. What is the best predictor variable of student’s academic performance on the French End of the Course Examination (FECE): Level 1?

Conceptual Framework

The conceptual framework of this study is based on the construct from the theoretical model, The Good Language Learner (GLL), developed by Naiman, Frohlich, Todesco, and Stern (1978). This model provides that learning and its outcomes are viewed as dependent variables occurring from three sets of divergent independent variables.

According to Rachlin (2005), the GLL Model demonstrates that the variables in the teaching category have an effect on students learning a foreign language, as do the variables existing within the learners play a crucial role in learning. The learner’s characteristics, such as cognitive learning styles, may interact with different instructional practices and result in different learning outcomes. Successful second language learning may depend on the student’s cognitive styles as well as the instructional practices employed by the teacher. The GLL identifies five variables that are major components of a good language learner. These components are (a) teaching, (b) the learner, (c) the context, (d) learning processes, and (e) the outcome.
Figure 1 illustrates the model with the five components of the foreign language learning process. According to Rachlin (2005), the flow chart displays how potential influences on the success of language learning occur, and the interactions of those influences. The delivery of instruction (instructional practices v. audio-lingual methodology, use of reading materials) may vary from teacher to teacher. The learner brings to the classroom a variety of variables (affective, age, cognitive learning style) which makes him or her distinguishable from other classmates. Learning encompasses two types of processes (a) conscious, and (b) unconscious. On an unconscious level, learning involves the ability to transfer knowledge from the first language (L1) to the second language (L2). On the conscious level, a student may decide that the unconscious processing does not work, and that the feedback or instructional practices employed by the teacher require greater attention.
Figure 1. The Conceptual Framework: The Good Language Learner. Adopted from Naiman, Frohlich & Stern (1978).
Significance of the Study

This study is significant because of the following reasons:

1. It provides information to assist foreign language teachers in making well-versed decisions concerning foreign language instruction and block scheduling.

2. The investigation of students’ cognitive learning styles and demographic variables offers insights into foreign language learning at the high school level.

3. School districts in Florida are planning, revising and reviewing their plans to administer a French End of the Course Examination (FECE): Level I.

4. This South Florida school districts is the first school district to administer a French End of the Course Examination (FECE) and this research can provide information for high school French teachers and foreign language curriculum designers.

5. It may increase both teachers and students’ awareness of how cognitive learning styles and school scheduling type influence students to perform at their maximum potential.

6. The results will provide assistance to building level administrators and district personnel when selecting alternative school scheduling methods.
Delimitations and Limitations of the Study

Delimitations

The sample population selected for this study was limited to students who were enrolled in French 1 for the school year of 2006-2007 in a large South Florida school district. The sample represented the uses of scheduling practices in the State of Florida, and was generalized, in that respect, to similar areas within the state.

Limitations of the Study

Although the research finding of this study adds significant information to the literature on block scheduling and cognitive learning styles, there are some limitations to the study. These include:

1. Data collection was from a number of school sites in one geographical location, and was limited to only one school district in South Florida.
2. The Group Embedded Figures Test (GEFT) was employed to measure cognitive learning styles.
3. The study was limited to gathering data from only four types of school schedules (a) traditional schedule, (b) the 4 x 4, block schedule, (c) the A/B alternating schedule, and (d) the seven period rotating schedule. The hybrid scheduling format was not investigated in this study.
4. The study was limited to students enrolled in French 2.

Definition of Key Terms

Allocated time: The time scheduled for instruction.

Alternating day schedule (A/B): Comprised of six or eight courses spread out over two days.
Approach: The conceptual rationale underlying a set of teaching strategies to achieve a purpose.

Attitude: Disposition to respond favorably or unfavorably toward an object, person, institution, or event. The student’s interest or lack of interest in activity or subject matter.

Center for Applied Linguistics (CAL): A research center focusing on the study of languages and linguistics. The ERIC Clearinghouse operates through the CAL.

Cognitive Learning Style: A psychological construct that characterizes the different ways in which individuals process information, interact with their environment, and relate to other people (Hoffman, 1997; Saracho, 1997; Witkin, Moore, Goodenough, & Cox, 1977).

Cognitive Skills Quotient (CSQ): Like the IQ, is based upon the student’s scores on both the Verbal and Quantitative subtests, as well as his or her age at the time of testing.

Criterion variable: Another term for dependent variable, or the presumed effect in a study. The term is usually used for non-experimental studies. In such usage, the independent variable is the predictor variable (Vogt, 1999).

Discrete points: The breaking down of language into its component parts and examining each part separately.

Elementary schools: Schools from pre-kindergarten through fifth or sixth grade.
Engaged learning time: The time students spend paying attention to a learning task and attempting to learn. This excludes time spent (a) socializing, (b) daydreaming, or (c) engaging in antisocial behavior.

English as a second language (ESL): A specialized program of English language instruction for non-native speakers of English. Which consists of 10 or more students in a school district? The program is for students whose mother tongue is not English. For example: A Korean in Canada learns ESL.

Field dependence (FD): One polar end of the FD-FI cognitive learning style continuum characterized by a general tendency to rely on external sources of information and to display interest and skill in interpersonal relationships (Witkin & Goodenough, 1981).

Field dependence-Field independence (FD-FI): A cognitive learning style identified by H.A. Witkin as encompassing three major elements, i.e., (a) internal versus external sources of information, (b) interpersonal skills, and (c) cognitive restructuring skills (Witkin & Goodenough, 1981).

Field independence (FI): One polar end of the FD-FI cognitive learning style continuum characterized by a general tendency to rely on internal sources of information and to have cognitive restructuring skills (Witkin & Goodenough, 1981).

First language (L1): The first language that a person learned. Although one may also be a native speaker of more than one language if all of the languages were learned.

Foreign Language in Elementary School (FLES): A program providing quality foreign language instruction before and after school to students in many school districts throughout the country.
Foreign Language Grade Point Average (FLGPA): Represented by a student’s French grade point average.

Foreign language: Any language that is not one’s native tongue, sometimes synonymous with second language.

Foreign language achievement: Foreign language learning in a school setting that has been successfully accomplished and is represented by the student’s grade in French.

Foreign language education: The theory and practice of learning and teaching a foreign language.

Foreign language learning: The process of learning a language other than one’s native tongue. Usually implies formal learning in a classroom setting, but also refers to the learning of a foreign language in a country where that language is spoken.

Foreign language teaching: The instructing of students in a foreign language.

General academic achievement (GPA): Learning in a school setting related to a specific curriculum that has been successfully accomplished and is represented by a student’s grade point average (GPA).

GPA (Grade Point Average): An indicator of general academic achievement calculated as the total number of grade points divided by the total number of credits; the averaging of student grades achieved in all course, with no course weighting.

Group Embedded Figures Test (GEFT): A test that measures field articulation and was developed for research into cognitive functioning, has become a recognized tool for exploring analytical ability, social behavior, body concept, preferred defense mechanism and problem solving style.
Individual differences: Cognitive, affective, and personality differences between learners.

Instructional preferences: The best method that accommodates a student preferred style of learning. The student’s preferred modality to receive instruction.

Language learning strategies: Tools learners use to develop communicative ability; a creative sequence of events that learners actively use in the language learning process; the often conscious steps or behaviors used by language learners to enhance the acquisition, storage, retention, recall, and use of new information.

Language proficiency: the ability to use a language for a purpose, independent of how the language was learned.

Learning strategies: The steps or behaviors used by language learners to enhance their (a) acquisition, (b) storage, (c) retention, (d) recall, and (e) use of new information.

Learning style: A student’s preferred way of (a) absorbing, (b) processing, and (c) retaining information and skills.

Multimedia: The use of several media, such as videos and computers in the classroom.

Native language: The primary or first language spoken by an individual. It is the first language a person learns and usually is known as a person’s “mother tongue”.

Prediction equation: Another term for regression equation that allows a researcher to predict the value of one variable based on knowing the value of another variable. A regression equation that does not include an error term (Vogt, 1999).

Secondary schools: Middle or senior high schools from sixth to twelfth grades.
Second language (L2): Any language other than the native language, sometimes used synonymously with foreign language.

Success: As measured in terms of the score on the French End of the Course Examination (FECE).

Teaching strategies: Refers to the most effective teaching techniques and instructional methods most commonly employed by a classroom teacher.

Teaching styles: Has no agreed definition but the more widely accepted definitions refer to it as “a set of teaching tactics” (Galton et al, 1999) or “instructional format” (Siedentop, 1991).

The 4 x 4 Plan: An instructional schedule that has four 90 minute blocks per day.

Time on task: The time students spend on school related tasks.

Organization of the Study

This section of the study introduces the reader to the layout of the dissertation and to identify the components of each chapter. The dissertation is divided into five chapters. Chapter I is an introduction to the study. It includes (a) the statement of the problem, (b) the purpose of the study, (c) the research questions, (d) the conceptual framework, (e) the significance of the study, (f) the delimitations of the study, (g) the limitations of the study, and (h) definitions of key terms and concepts used.

Chapter II provides a review of the related literature. It includes (a) traditional scheduling v. block scheduling, (b) block scheduling and foreign language learning, (c) block scheduling and academic achievement at the high school level, (d) secondary-level foreign language study and achievement, (e) block scheduling and scheduling types, (f) gender and foreign language study, (g) the influence of native language on foreign
language learning, (h) studies relative to the prediction of achievement in foreign language, (i) cognitive learning styles, (j) ethnicity, (k) ethnicity and foreign language study, and (l) ethnicity and learning styles.

Chapter III presents the methodology and the research design used in this study. It includes (a) the population, (b) the variables, (c) a detail account of the instruments, (d) validity and reliability of the instruments, (e) data collection procedures, and (f) statistical analysis.

Chapter IV presents the findings of the study based on the analysis of the data. The research questions are restated for clarity and continuity in the study. Descriptive statistics and statistical analyses are discussed.

Chapter V presents (a) the findings, (b) conclusion and (c) implications of this study. It also provides recommendations for further study.
CHAPTER II

REVIEW OF RELATED LITERATURE

Today, in the United States and abroad, mastery of a foreign language is essential not only for educational success but also for economic and cultural development. College graduates, teachers, and professionals can gain a competitive advantage from learning a foreign language. Additionally, the cultural knowledge and skills derived from foreign language study are invaluable in a global economy (Grosse, 2004).

Many public schools and universities require their students to demonstrate competency in foreign language coursework prior to graduation (Education Commission of the States, 2007; Ganschow, Myer, & Roeger, 1989; Ganschow, & Sparks, 1987; Ganschow, Sparks, Javorsky, 1998). In 1987, the Florida Legislature adopted Section 1007.261(1) (a), Florida Statutes, mandating two credits of sequential foreign language instruction at the secondary level as a prerequisite for admission to all Florida state colleges and universities. These requirements are for all students with the exception of those whose native language is not English. Those students whose native language is not English must demonstrate proficiency in their native language (Florida Department of Education, 2006). This regulation affected academic advisement by school guidance counselors. Mainly, because a passing grade in a foreign language became a requirement for college bound students receiving a standard Florida High School Diploma. Students who do not satisfy the foreign language requirement will be denied admission into any of the state’s public universities and colleges.

The literature selected for this review provides an overview of the benefits of
(a) traditional scheduling versus block scheduling, (b) block scheduling and foreign language learning, (c) block scheduling and academic achievement at the high school level, (c) secondary level foreign language study and achievement, (d) block scheduling and scheduling type, (e) ethnicity, (f) ethnicity, gender and foreign language study, (g) ethnicity and learning styles, (h) the influence of native language on foreign language learning, (i) studies relative to the prediction of achievement in foreign language, (j) cognitive learning styles, and (k) FD-FI cognitive learning styles.

**Traditional Scheduling versus Block Scheduling**

The school reform movement has stimulated the nation's secondary school educators to carefully examine the relationships between their time-honored educational practices and student achievement. Reports published within the last few decades; in particular *A Nation at Risk* (National Commission on Excellence in Education, 1983) and *Prisoners of Time* (National Education Commission on Time and Learning, 1994) have been critical of traditional organizational structures and have called on educators to implement more engaging methods of instruction. The National Education Commission on Time and Learning (1994) declared “the future of public school education depends on the effective use of school time” (Gruber & Onwuegbuzie, 2001). The National Association of Secondary School Principals (1996) further challenged educators to design high schools that promote (a) active student engagement, (b) emphasize depth of content over surface treatment, and (c) develop flexible scheduling models that facilitate these changing instructional practices.

Many public school systems have moved away from the traditional schedule to block scheduling or other alternative schedules in order to meet the needs of a multi-
cultural student population (Durkins, 2003). Across the country, block scheduling has
grown in use from approximately 25% to 50% (Knight, DeLeon & Smith, 1999; Veal &
Schreiber, 1999). A 1997 study of Florida high schools, commissioned by the Florida
Educational Research Council, reported that as many as 200 hundred Florida high
schools employed a form of block scheduling (Dow & George, 1998). For the majority of
those schools, block scheduling was a new experience. Of all the schools reported, only
five schools had been on block scheduling for more than five years. The most popular
form of block scheduling was the 4 x 4, with fewer schools preferring the A/B alternating
day schedule (Bush, 2003).

In 1998, in some states, the percentage of high schools on the block schedule
grew to 74% (North Carolina Department of Public Instruction, 1999). In 1999, more
than 50% of high schools reported using some form of block scheduling; the most
popular tracks are the accelerated 4 x 4 block and the alternating day (Dentel & George,
1999). The traditional schedule breaks the school day into seven to eight periods that are
50 to 55 minutes each. It requires students to (a) move from room to room five to seven
times daily, (b) meet with five to seven teachers, and (c) use several different textbooks
and a variety of teaching methods. This schedule has often led to truancy and discipline
problems along with fractured teaching and learning (Khazzaka, 1997).

Grossman (1998) reported that in order to move away from this type of fractured
scheduling and better educate our nation’s children, school administrators have
manipulated time and experimented with alternative schedules. In the last decade, the
options beyond the traditional schedule have grown from longer sessions and year round
schooling to after school programs, full-day kindergarten; and, in some states, a four day
school week. In a traditional schedule, students typically see as many as seven or eight teachers daily. The changing of classes and limited time makes it difficult for students to focus sufficiently on a topic and fully engage in critical thinking skills concerning that topic. Opportunities for accelerated learning and enrichment activities are diminished. In fact, the interaction between the teacher and student is minimal with teachers seeing too many students within a short period each day. Block scheduling allows for students to have a group of core teachers who are able to establish helpful relationships (De Rouen, 1998).

According to Hurley (1997), teachers who teach on the block schedule have (a) fewer preparations, (b) more time at school to perform their duties, (c) less students per semester, and (d) less paper work. Block scheduling allows for teachers to use a variety of new teaching techniques and learning activities (Deuel, 1999).

The New York City Board of Education (2000) reported on a study that examined the reading and math performance of students in elementary and middle schools in the New York City Schools under Registration Review (NCSURR) with extended time and those without extended time for the school year 1999-2000. According to the report, the improvement in the percentage of students achieving grade standards in both reading and mathematics was greater in extended time school than in non-extended schools.

Block Scheduling and Foreign Language Learning

In the foreign language classroom, block scheduling relies on the premise that foreign language teachers will have (a) more instructional flexibility, (b) longer preparation every day, (c) more one-on-one time with students, (d) more cooperative learning time, and (d) more class discussions and projects. Students will have more time
to (a) organize and prepare for class, (b) prepare for tests, and (c) finish tests (Blaz, 1998; Lare, Jablonski, Salvaterra. 2002). Queen and Isenhour (1998) reported that block scheduling is beneficial for all teachers and students because it (a) lengthens classes and increases the amount of instructional time, (b) allows for students to make up work after an absence, and (c) it accommodates students who need remedial assistance or students who fail a course can repeat it the next semester. In addition, researchers have found that block scheduling allows for (a) more concentration in the foreign language being studied, (b) a variety of tests and communicative activities (Blaz, 1998; ERIC Digest, 1998), and (c) longer class periods offering exciting opportunities for higher level language study (Mattox, Hancock, & Queens, 2005).

**Block Scheduling and Academic Achievement at the High School Level**

In high schools across the nation, the school schedule is of the utmost importance. The master schedule has a big affect on the quality of the entire school program (Dempsey, 1988), not solely for the purpose of organizing the school day into time slots for acquiring content material, but also for assigning credits for graduation (Bush, 2003).

Because the demand on teacher time has increased in recent years, teachers must make efficient and effective use of their instructional time with students. Most teachers believe that there are not enough hours in the day to accomplish what needs to be done (Prater, 1992).

According to Prater (1992) classroom time may be divided into three categories (a) allocated time, (b) time on task, and (c) engaged learning time. Prater also urged that allocated time is the amount of time scheduled for instruction. Time on task refers to the amount of time students spend on school related tasks. Engaged learning time is the
amount of time students spend on relevant instructional activities (p. 22). Research has documented that only 50% of the typical school day has been allocated to instruction (Good, 1983; Thurlow, Graden, Ysseldyke & Algozzine, 1983). Researchers have also found that there is a high correlation between student achievement and the time teachers allocate to instruction. The more time teachers spend instructing students, the more their students will achieve in the classroom (Wittrock, 1986).

Shortt and Thayer (1998) assessed the use of time and its impact on student achievement. Two of the issues they examined, as related to the use of time, were how block scheduling affects the school climate and how climate affects student achievement. Gruber and Onwuegbuzie (2001) reported mixed results concerning the effects of block scheduling on academic achievement (p.34). However, McGorry and McGorry (1998) and Hess, Wronkovich, and Robinson (1999) found that students were more successful in block-scheduled classes than students in short period classes. Winan (1996) reported that Flagler/Palm Coast High School, located in Florida, experienced many advantages in using the 4 x 4 over their previous seven period day. While 27% of the students formerly made the honor roll, 50% made it on the 4 x 4 schedule. Grade point averages increased for all students. Daily attendance rose from 88% to 95%, (although this improvement may have been due in part to allowing those students with perfect attendance to skip the final exam). The school also noted that discipline referrals were cut in half and the dropout rate was reduced to 1.1%, which was among the lowest in the state. Some of the more unusual gains reported were that student’s grades no longer dropped from middle school to high school and a big increase in dual enrollment with the local community college was reported (Bush, 2003). Eineder and Bishop (1997) reported that Ohio Philo
High School found many advantages when using the 4 x 4 on ninth grade students who were making the transition from middle school to high school. During the first two years, the number of ninth graders making the honor roll doubled from the first grading period to the second grading period (p. 53).

Lawrence and McPherson (2000), in a similar study, reported that the mean scores for students enrolled in Algebra I, Biology, U.S. History, and English I on the traditional schedule were consistently higher than the mean scores for students on the block schedule. These students were enrolled in two high schools in the same North Carolina school district where end of the course test scores were used. Hess, Wronkovich, and Hackmann (1999) reported that blocked schedule schools performed significantly better on SAT II English and Biology tests than did students on non-blocked schedules. Conversely, Pliska, Harmston, and Hackmann (2001) found no differences in mean achievement scores among eight period, eight block, and 4 x 4 semester block schedule schools in Illinois and Iowa. Likewise, Pederson (2001) found no differences in student achievement between block and non-blocked Iowa high schools on the Iowa Test of Educational Development, a standardized test completed by high school students in their junior year. Similarly, Lyons and Terry (2003) found no significant differences between mean scores in nine different areas across scheduling type. Lockwood (1995) also found no statistically significant differences in algebra and geometry and scheduling type.

Secondary Level Foreign Language Study and Achievement

Eddy (1981) and Cooper (1987) examined the role of foreign language study on students’ verbal scores on the Scholastic Aptitude Test (SAT). Eddy found that when verbal ability was controlled, students having longer periods of exposure to foreign
languages perform better on SAT subtests and SAT-verbal portions than those who had studied less foreign language. He also found that studying two foreign languages had no significant effect on standardized test scores. Importantly, the type of language studied had minimal effect on standardized measures. Eddy further reported that higher grades in foreign language study increased the effect of foreign language study on SAT reading and vocabulary sub-scores. The higher the grades earned in foreign language study, the more profound the impact the foreign language study had on students’ SAT reading and vocabulary sub-scores. Lastly, the effect of foreign language study manifests itself more strongly in vocabulary development than it does with respect to English structure usage.

Another study conducted by Cooper (1987) supports Eddy’s findings that the length of foreign language study significantly correlates with student performance on the SAT-verbal. Cooper pointed out that the more foreign language study, the better. However, unlike Eddy’s study, Cooper also found that students studying German had the highest SAT-verbal scores followed by students studying (a) French, (b) Latin and (c) Spanish. Wiley (1989) examined students who were beginning post-secondary studies. Wiley sought to determine the relationship between high school foreign language study and grade point average of college freshman. Her results found that secondary students who studied foreign languages at the secondary level performed better in college than their non-language peers of equal ability.

Hart (1993) examined whether a correlation existed between intelligence and foreign language achievement among high school students. Hart investigated if there was a correlation between the entrance exam scores of tenth grade high school students and achievement in foreign language after one year of study. According to his findings, math
and language were most significantly correlated with foreign language achievement. Foreign language and reading were also notably correlated, but to a lesser degree. Possibly, the most important finding of this study is that students’ cognitive skills quotient and foreign language achievement had the least significant correlation, which indicates that IQ plays a minor role in predicting students’ foreign language achievement.

Two quantitative studies have been conducted to examine the effect of block scheduling and foreign language achievement (Lapkin, Harley, & Hart, 1997; Wallinger, 1998). They conducted a study of middle school students in Ontario, Canada. Lapkin, Harley, et al. (1997) revealed no significant statistical difference on speaking or listening tests in performances in any of the groups studied. When testing reading comprehension, the half-day and the 80 minute classes significantly outperformed the 40 minutes comparison group. On writing portion, the half-day classes scored significantly better than the 40 minute class.

Wallinger (1998) reported the results of her dissertation study in which she administered end-of-the-year course tests in (a) listening, (b) speaking, (c) writing, and (d) reading to French I students in 60 classes in the State of Virginia who had received instruction via the (a) 6/7 traditional schedule, (b) 4 x 4 block schedule, and (c) the alternating day schedule. The results revealed no significant difference in performance on any of the skills across any of the groups. After additional analysis, the reading and listening scores of students on the 4 x 4 block schedule revealed a decline into the bottom quartile. These studies revealed that little is known about the effects of block scheduling on student achievement in foreign languages as a predictor of success.
Taylor-Ward (2003) studied elementary level students in Louisiana public schools who continued their foreign language study through and including the 5th grade to determine if foreign language study contributed to their academic achievement in subject areas tested on the Iowa Tests of Basic Skills (ITBS) and the Louisiana Educational Assessment Program (LEAP). The findings indicated that students who studied a foreign language statistically outperformed non-language students on the LEAP in (a) language, (b) mathematic, (c) science, and (d) social studies. Students with foreign language instruction passed the 5th grade ITBS test at 80% versus 73% compared to non-language students. Taylor-Ward posited that research on secondary-level foreign language study and its impact on post-secondary academic performance would add an important dimension to the body of research examining the role of foreign language study in enhancing academic achievement (p.68). This research shows that foreign language study at the secondary level is equal to the Foreign Language in the Elementary School (FLES). Both programs yield positive benefits for student participants in verbal skill achievement (Taylor-Ward, 2003).

Block Scheduling and Scheduling Type

Veal and Schreiber (1999) conducted a study to examine the effects of a tri-schedule on academic achievement of high school students. The schedule consisted of (a) a traditional schedule, (b) a 4 x 4 block, and (c) a hybrid schedule running simultaneously in the same high school. The effectiveness of the schedules was determined by using a state mandated test of basic skills to measure student (a) reading, (b) language, and (c) mathematic performance. A statistical analysis of covariance (ANCOVA) was employed using the scheduling type as the independent variable and the
cognitive skills index and the GPA as covariates. The results revealed that there was no statistically significant difference between reading and language scores. There was a statistical difference in mathematics-computation scores. Block mathematics is an ideal format for obtaining more credits in mathematics, but the block format did little for mathematic achievement and conceptual understanding. The results did not provide conclusive evidence that one schedule was better.

Harmston, Pliska, Ziomek, and Hackmann (2003) investigated the mean ACT assessment scores of 450 public high schools in Illinois and Iowa, pertaining to how classes were scheduled. This longitudinal study sought to determine if there was a relationship between scheduling type and academic achievement as measured by the ACT Assessment in schools employing (a) a traditional schedule, (b) 4 x 4 block schedule, and (c) alternating block schedule. Their results found that schools on the eight period daily schedule demonstrated a slight upward trend in the ACT composite scores over a period of time, and the block scheduled schools did not show a consistent upward trend. Harmston et al. (2003) reported a decline in ACT scores at block schedule schools. The researchers suggested that schools must ask themselves if the change will meet their need, before making the transition.

*Ethnicity*

According to Rolstad (1997) the study of ethnicity is complicated by the interplay of genetic and cultural transmission. Ethnic labels are attributable by a person's appearance, but ethnicity is more than a set of physical features. Ethnicity also represents a constellation of (a) shared values, (b) language, (c) history and (d) experiences that interact with the person’s genetic attributes to influence a sense of identity. Rolstad
pointed out that these identities are formed through socializations and contribute to children’s developing self concepts. How these influences are handled by the child, under the influence of (a) teachers, (b) parents, and (c) peers, can play an vital role in determining the child’s degree of success in school.

Olson and Wilczenski (1995) argued that ethnic status has a profound effect on the perception of competence. Olson and Wilczenski also pointed out that ethnic minority students attending predominantly European American schools have been rated as significantly less socially competent than their European American counterparts.

Serpell and Boykin (1994) reported that teachers’ ratings of student competence may be lower due to a lack of understanding about ethnic and cultural values that differ from the dominant European American culture. Moreover, Mpofu, Thomas, and Chan (2004) reported that studies in this area have focused on African American students and not Latino students.

Kubota and Catlett (2008) found that African American students tend to be counseled out of foreign language study because of the perception that it is too difficult for them to learn. However, according to past research (Moore & English, 1997, 1998) African American students have successfully developed skills in foreign languages that have been considered the most difficult to learn.

*Ethnicity, Gender and Foreign Language Study*

There is a dearth of research evidence concerning academic achievement by ethnicity or gender and foreign language achievement. In a review of the literature, one study was found which discussed the academic achievement of high school students by gender and foreign language study. Foreign language study is traditionally perceived as
feminine (Birenbaum & Kraemer, 1995). The National Center for Education Statistics (2003) reported that female high school graduates complete advanced English and foreign language courses at a higher rate than males.

Wa Njogu (2001) studied college students enrolled in a Kiswahili program. The study investigated whether there was a correlation between motivation and Kiswahili language learning achievement which focused on (a) gender, (b) age, (c) prior foreign language experience, (d) college class rank, and (e) ethnicity. The study revealed that the majority of students enrolled in the Kiswahili program out of curiosity or in order to complete a foreign language requirement. The study revealed a weak but positive correlation between motivation and academic achievement. Ethnicity had a lower correlation of .03. However, Gender was a factor when analyzing the variance in Kiswahili GPA. Gender also had a correlation of .30. Female students had a higher Kiswahili GPA than male students. When evaluating the program, students reported average ratings of (a) the Kiswahili program, (b) the instructors, (c) instructional materials, and (d) assignments in and out of class and oral examinations. Moreover, white Americans reported higher ratings of the Kiswahili program than African Americans concerning (a) the instructors, (b) teaching methods, (c) instructional materials, (d) in and out of class assignments and oral examinations. By gender, female students rated (a) the Kiswahili program, (b) instructors, (c) teaching methods, (d) instructional materials, (e) in and out of class assignments and oral examinations higher than male students. Students overwhelming reported that their needs were met in the Kiswahili program, although students reported that there was a need to improve the program.
Other studies have investigated gender differences in male and female learners. Chen (2005) investigated the perceptual learning style preference among Taiwan senior high school students learning English as a second language. Her study did reveal a significant difference in student perceptual style preferences and language learning strategies. Females were found to use strategies more often than males (Females M= 2.664, Males M= 2.572). However, there were no perceptual learning styles significant to gender.

*Ethnicity and Learning Styles*

According to Park (2002) “Research has identified cultural difference in the learning styles of various ethnic groups”. Park (1997) conducted a comparative study of (a) Chinese, (b) Filipino, (c) Korean, and (d) Vietnamese, with Anglo students in a secondary school and concluded that these students were more visual than Anglos and that (a) Korean, (b) Chinese, and (c) Anglo students showed negative preferences for group learning. Whereas Vietnamese posited a major preference and Filipino students showed a minor preference.

In a comparative study of college students learning English as a second language (ESL), Reid (1987) reported significant cultural differences in (a) visual, (b) auditory, (c) kinesthetic, (d) tactile, (e), group and (f) individual learning styles among (a) Korean, (b) Chinese, (c) Japanese, (d) Malay, (e) Arab, and (f) Spanish students. Reid also reported that college ESL students greatly preferred kinesthetic and tactical learning styles and that most groups showed a negative preference for group learning.

Reid further argued that students who had been in the United States for more than three years were significantly more auditory in their preferences of learning style than
students who had been in the United States for a shorter period of time. Reid urged that the skills of students who lived and studied in the United States the longest closely resembled those of native speakers of English. Additionally, Korean students were the most visual learners and were significantly more visual than their United States and Japanese counterparts. Chinese and Arab students were strongly visual learners. Japanese students were the least auditory learners of all and were significantly less auditory than Chinese and Arab Americans, who demonstrated a strong preference for auditory learning.

Dunn, Gemak, Jalai, Zenhausen, Quinn, and Spiridakis (1990) conducted a crosscultural study of learning styles of (a) Chinese, (b) African, (c) Greek, and (d) Mexican American children in elementary schools. Dunn et al. concluded that all four groups were field-dependent (preferring to study with peers), with Greek-American children revealing the highest group means and African Americans showing the lowest group means. Chinese American elementary school children demonstrated the most kinesthetic and tactile learning styles of the four groups and showed the most significantly different from African Americans, followed by Greek Americans, and then Mexican Americans. The study revealed that Chinese Americans preferred to study alone rather than with their peers and needed more structure than African American or Greek American children but were less structured than Mexican Americans.

Previous research has also noted cultural differences in the learning styles of (a) African American, (b) Mexican American, (c) Southeast Asian, and (d) Native American students (Bell, 1994; Dunn, Griggs, & Price, 1993; Guild, 1994; Melear & Richardson, 1994; Park, 2000; Ryan, 1992).
Previous research has also found that students’ learning styles were significantly linked to their achievement level. Park (1997) reported that among high, middle, and low achievers, high achievers were mainly visual and low achievers were the least visual, and middle and low achievers showed minor preferences and high achievers had a negative preference for group learning. Kagan (1986) found that cooperative group learning showed gains in academic achievement, especially between African American and Latino American students. Conversely, Reid (1987) reported that none of the college ESL students in her group chose group learning as a major learning preference.

In a study of diverse English learners (Armenian, Hmong, Korean, Mexican, and Vietnamese) in secondary school, Park (2002) investigated the learning styles in order to identify similarities and differences. The sample included 812 students from 20 high schools in California between 1995 and 1997. Park found significant ethnic group differences as well as achievement level differences in basic learning style preferences. All students in the study exhibited major or minor preferences for kinesthetic or tactile learning styles. A multivariate analysis of variance (MANOVA) revealed a significant affect for ethnicity, Wilks Lambda = .86, F (24, 2711) = 5.10, p. 05. The results revealed a very strong association between ethnicity and combined learning style preferences and between students’ achievement level and the combined learning style preferences. However, there was no significant interaction effect between ethnicity and students’ achievement level.

*The Influence of Native Language on Foreign Language Learning*

A number of studies have found that a student’s native language (L1) has a profound affect on one’s potential to learn a foreign language (Ganschow, Sparks, and
Javorsky, 1998; Simon, 2000). In a three-year study of Finnish students learning English, Service (1992) found that students with poor phonological memory skills experienced difficulty learning foreign language vocabulary and learning larger language units.

Simon (2000) reported that these linguist deficits have also been observed in phonological recording tasks in studies of reading disabilities. In addition, Sparks (1997) found that one’s phonological reading skills were key predictors of foreign language proficiency. Service (1992) stated “all new foreign words are initially foreign sounding non-word, the inability to create sufficiently distinctive or durable traces of them in phonological store could prevent their long term memory learning” (p. 45).

Studies Relative to the Prediction of Achievement in Foreign Language

A great deal of research has been conducted with the goal of predicting success in foreign language learning (Hart, 1993). Earlier studies investigated the correlation between intelligence and language proficiency (Ardent, 1967; Boyle, 1987; Carroll, 1981; Oller, 1983). Arendt (1967) reported that Phonetic Script, a Modern Language Aptitude Test (MLAT) subtest was the best single predictor of achievement in German and one of the most powerful predictors for French. She also reported that the experimental batteries of the multiple regression analysis outperformed the MLAT as a predictor of foreign language grades. She further concluded that grade point average and previous language should be considered as predictors of success in language study. She also reported that predictors chosen for regression equations varied with respect to language, and variability seemed to be attributable to basic language differences and differences in testing.
Other studies cited the use of the Pimsleur Language Aptitude Battery (PLAB) to place students in foreign language. Curtin, Avner, and Smith (1983) contemplated whether parts or a combination of the PLAB could be used to predict success in the classroom as measured by final grades in foreign language courses. They discovered that a significant correlation existed between foreign language grades and previous grade point average in all languages. Another study added the role of attitude to aptitude in order to predict success in second language learning (Gardner, 1978), and others added a variety of measures (Sparks, Ganschow, Javorsky, Pohlman, & Patton, 1992).

Sparks et al. (1992) concluded that the student’s native language skills appeared to affect his or her ability to meet the rigors of learning a foreign language. They further concluded that it is the level of proficiency in the phonological and syntactic codes found in a student’s native language determines their success in the foreign language classroom.

In a nationwide survey conducted by Wherritt and Cleary (1990), results suggested that networking on assessment and placement testing is needed to overcome problems that are vital to the success in foreign languages. They suggested that integration of testing and curriculum between high school and college be studied to make sure that language majors and teachers are better prepared and institutions are working toward similar goals.

Cognitive Learning Styles

Within the past 25 years, increased attention has been placed on student learning styles (Lemire, 2000). Research has suggested that the teacher’s teaching styles and student learning styles interact to influence student learning (Saracho, 1990; Zhang, 2004), especially when course delivery is tailored to the different learning styles of
students, student learning is enhanced (Gerstl, 2002). Many studies have identified the relationships of students’ learning styles and instructional methods (Sadler-Smith, 2001; Sadler-Smith & Riding, 1999; Seidel & England, 1999). However, the effectiveness of certain pedagogical or instructional methods depends on (a) the student’s learning habits, (b) learning styles, (c) preferences, and (d) other intervening variables. That is to say, no instructional method is effective for all students (Beyth-Marom, Spaorta, & Caspi, 2005).

The concept of learning styles has been defined in many ways (Sternberg, 1997). It relates to the cognitive strategies that students use to acquire and use knowledge through preferential strategies such as (a) gathering, (b) interpreting, (c) organizing, and (d) thinking new information (Gentry & Helgesen, 1999). “Cognitive learning styles are a psychological construct that characterize the ways in which people interact with their environment and mentally organize their surroundings” (Gerstl, 2002, p.57). In order for this to occur, consistency must take place in how people (a) perceive, (b) process, (c) remember information, (d) solve problems, (e) make decisions, and (f) interact with others. Cognitive learning styles require spontaneous and subconscious tools of operating in diverse environments and form a modus operandi for individuals (Gerstl, 2002).

Witkin (1971) described the characteristics of field dependent/field independent styles used in the educational literature. He showed how learners with these styles learn and suggested ways in which they should be taught. Table 1 reports the characteristics.
Table 1

*Characteristics of Field Dependent and Field Independent Learners*

<table>
<thead>
<tr>
<th>Field Independent (FI) Learners</th>
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<tbody>
<tr>
<td>1. Tend to be highly individualistic.</td>
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<td>2. Prefer to set own goals and objectives</td>
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<tr>
<td>3. Do not need (or like) too much direction and structure.</td>
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<tr>
<td>4. Are internally motivated and engage in self-reinforcement, do not require or respond to external sources.</td>
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<tr>
<td>5. Tend to follow internalized values and beliefs, as opposed to other people.</td>
</tr>
<tr>
<td>6. Are sometimes insensitive to the feelings and reactions of other people.</td>
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<tr>
<td>7. Are interested in abstractions, prefer abstract, analytically oriented subject matter.</td>
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<thead>
<tr>
<th>Field Dependent (FD) Learners</th>
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<tbody>
<tr>
<td>1. Tend to be highly aware of context and environmental factors.</td>
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<tr>
<td>2. Prefers to work toward prescribed goals and objectives.</td>
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<tr>
<td>3. Need directions, carefully delineated structure, and social interaction.</td>
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<tr>
<td>4. Need and response to social reinforcement (use minimal criticism).</td>
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<tr>
<td>5. Are sensitive to others for definition of their own values and actions.</td>
</tr>
<tr>
<td>6. Are skilled at discerning the feeling of others from observation of facial expressions.</td>
</tr>
<tr>
<td>7. Prefers socially oriented subject matter.</td>
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</tbody>
</table>
Saracho (1997) found that a person’s cognitive learning style can be inferred by observing patterns in his or her behavior, including learning strategies, and personality. The most researched of cognitive learning styles is FD-FI, which is a value neutral bipolar continuum, with field dependence (FD) and field independence (FI) at opposite ends. Witkin and Goodenough (1981) stated that there are varying degrees of FD and FI characteristics.

According to Saracho (1997) and Witkin and Goodenough (1981) the FD-FI concept involves individuals who have different behavioral patterns on the FD-FI continuum. Witkin and Goodenough (1981) found that the FD-FI constructs encompass three major fundamentals: (a) internal versus external sources of information, (b) interpersonal skills, and (c) cognitive restructuring skills. Individuals with internal sources of information depend on their own belief system or information to make judgments without having to rely on the opinions of others, whereas individuals with external sources of information need to seek advice and support from others.

Interpersonal skills reflect (a) social orientation, (b) interest in other people, and (c) communication competence. Additionally, individuals with interpersonal skill are able to communicate their ideas and understand the opinions and needs of others as they are expressed verbally or through body language (Gersti, 2002).

FD-FI Cognitive Learning Styles

Cognitive style differences have been treated as causal factors in determining learner outcomes and have been applied to the study of bilingual education, and second language acquisition (Bialystok, 2001). The most studied cognitive style is field dependence/field independence (FD/I) (Bialystok, 2001).
Field dependence/independence has become one of the most widely employed measures of assessing cognitive style (Angeli & Valanides, 2004; Kahtz & Kling, 1999; Liu, 2003). The cognitive style theory of field dependence was conceptualized by Herman Witkin (Witkin & Goodenough, 1981) and determines if a person is dependent or independent in their organization of surrounding perceptual field. The main measure of field dependence is the Embedded Figures Test, where participants locate a previously seen figure within a larger complex figure (Richardson & Turner, 2000). To understand this measure, Witkin studied the perception of the upright position in relationship to the surrounding visual field (Gersti, 2002) by employing two distinct experiences. First is the visual field, which allows a person to see the vertical and horizontal axes in space. Second is the force of gravity comprehended through the vestibular, tactile, and kinesthetic sense. Because many people rely heavily on the visual field rather than the influence of gravity, or vice versa, there is thought to be a discrepancy in the perception of the upright position between the two experiences (Khatz & Kling, 1999). Witkin developed the concept of FD-FI in order to discern conflicting information from visual or gravitational cues (Gersti, 2002).

In bilingual education, the hypothesis is that bilingualism changes children’s conceptual organization and their position on the dimension of FD-FI, usually towards a more analytical (field independence) pole. In second language acquisition, the hypothesis is that particular configurations of cognitive learning styles are most beneficial to learning a second language, by making success more likely for students with those qualitative attributes (Bialystok, 2001). In foreign language learning, research suggests that there maybe a link between field independence and foreign language achievement.
Research claims have been made that field dependent individuals have a social advantage that translates into a greater success in oral proficiency and that field independent individuals have greater success in the classroom, by achieving higher levels of linguistic competence (Bialystok, 2001).

Hsiao (1999) conducted a study examining the effect of cognitive learning styles and its interaction with deductive and inductive teaching methods. The purpose of this study was to determine whether or not the Group Embedded Figures Test (GEFT) could predict the performance on posttests of French students. The results revealed that students in the combined group outscored students in the deductive or inductive groups on the posttests. Furthermore, a review of the students’ means scores revealed that the field independent learners outperformed the field dependent learners. In the deductive group, the field dependent students performed better than the field independent students. Conversely, in the inductive group, field independent students had higher mean scores than those in the field dependent group.

However, when Hsiao performed a factorial analysis on student performance using a covariate, the analysis found that the cognitive learning style was not significant. Although there were higher mean scores, the scores were not statistically significant. Hsiao also ran a non-parametric test, a Kruskal-Wallis procedure to compare treatment and cognitive style. These numbers were consistent with the results gained in the previous Analysis of covariate (ANCOVA). Additionally, an analysis of gender differences was conducted using a factorial ANCOVA. These results revealed no significant difference between male and female mean scores in the inductive group.
Johnson, Prior, and Artuso (2000) studied individuals using the Embedded Figures Test and found that field dependent, and not field independent individuals were more adaptive to certain aspects of second language proficiency. Researchers have argued that there is a correlation between field independence and success in foreign language classrooms. However, critics have pointed out that there is also a correlation between field independence and intelligence, and that it mediates all aspects of learning, including foreign language learning. In spite of the research, there is a theme that bilinguals approach certain problems differently than monolinguals and that field independent individuals are more successful second language learners than field dependent learners (Bialystok, 2001). Another alternative approach to improving student learning is to accommodate the different learning and cognitive styles of the multicultural class. A teacher who is field independent can attend to multiple cues in the classroom in ways that pay attention to individual student needs (Bagley & Mallick, 1998).

Summary

This chapter, the review of the literature, has discussed (a) the traditional schedule versus the block scheduling method, (b) block scheduling and foreign language learning, (c) block scheduling and academic achievement at the high school level, (d) secondary level foreign language study and achievement, (e) ethnicity, (f) ethnicity, gender and foreign language study, (g) ethnicity and learning styles, (h) the influence of native language on foreign language learning, (i) studies relative to the prediction of achievement in foreign language, (j) cognitive learning styles and (k) FD-FI cognitive learning styles.
In addressing foreign language learning, the review continued by examining additional factors that may play a crucial role in foreign language achievement. The review of the literature reveals that these other variables may contribute to academic achievement. Additionally, other variables should be investigated such as (a) intelligence and language proficiency, (b) GPA, (c) gender, (d) ethnicity, and (e) learning styles.
CHAPTER III

Methodology

Chapter Three presents the research methodology of the present study. It begins with (a) a restatement of the problem, (b) the research questions, (c) the type of research design, (d) the variables, (e) the population, and (f) the instruments employed in the dissertation study. The final elements include (a) the researcher’s role for gaining approval of the dissertation study, (b) the researcher’s role in administering and scoring the Group Embedded Figures Test (GEFT), (c) content validity and reliability, (d) data collection procedures and confidentiality, and (e) statistical analysis.

Restatement of the Problem

Throughout the United States, many school districts are altering instructional time by adopting either the 4 x 4 block schedule or the alternating day (A/B) block schedule in an attempt to enhance student achievement (Chang, 2006; Hancock, 2006). The Florida Educational Research Council commissioned a study and found that block scheduling was employed at as many as 200 Florida high schools. Of those 200 Florida high schools, only five schools reported having used block scheduling for five years or more. Block scheduling is a new experience for many high schools. The change in scheduling has affected administrators, teachers, students, and parents (Dow & George, 1998). Some educators suggested that block scheduling has the possibility of improving student achievement (Cobb, Abate, Baker, 1999; Queen, 2003; Shortt & Thayer, 1999). But a correlation between block scheduling and student achievement has not been fully established (Hackmann, 1999).
A review of the literature finds only a few studies have examined the effect of block scheduling on specific school subjects. According to Lewis, Wincor, Cobb, Gliner, and Schmidt (2005) research studies have only examined the effect of block scheduling on science (McCready & Hausman, 2001; The College Board, 1998); English (Brake, 2000; Schreiber et al., 2001; The College Board, 1998), mathematics (Brake, 2000; Schreiber et al., 2001; Walker, 2000), and history (The College Board, 1998) at the high school level. A review of the literature is void of any study examining the effect of block scheduling and French student achievement at the high school level.

Research Questions

This study examined the relationship between (a) school scheduling type, (b) cognitive learning styles, (c) student ethnicity, (d) foreign language grade point average (FLGPA), and (e) gender and their impact on students’ French End of the Course Examination (FECE): Level 1 scores. Specifically, the study will answer the following questions:

1. Is there a relationship between (a) school scheduling types (block schedule, traditional schedule, alternating A-B schedule or seven period rotating schedule) and (b) students’ academic performance on the French End of the Course Examination (FECE): Level 1 scores?

2. Is there a relationship between cognitive learning style scores, as measured by the GEFT, and students’ academic performance on the French End of the Course Examination (FECE): Level 1 scores?
3. Is there a relationship between student ethnicity, as a predictor variable, and students’ performance on the French End of the Course Examination (FECE): Level 1 scores?

4. Is there a relationship between student gender, as a predictor variable, and students’ academic performance on the French End of the Course Examination (FECE): Level 1 scores?

5. Is there a relationship between student’s foreign language grade point average (FLGPA), as a predictor variable, and students’ academic performance on the French End of the Course Examination (FECE): Level 1 scores?

6. What is the best predictor variable of student’s academic performance on the French End of the Course Examination (FECE): Level 1?

Research Design

The design of this study was a correlational research design, a method of research used to determine the relationship between two or more variables (Salkind, 2000). A random stratified sample of the students was intended, however due to a number of schools that declined to participate in the study, a sample was obtained based upon voluntary participation. The researcher obtained test scores from duplicate reports from the school registrar. Background and demographic information were obtained from students. The anticipated enrollment in each scheduling group was at least thirty students. However, none of schools in the study had enrollments of thirty students. Student enrollment in French varied at each school. The A/B alternating day school comprised of 36 students. The block schedule school comprised of 20 students. The traditional schedule school comprised of 54 students. The 7th period rotating schedule school had 58
students. The participants were asked to complete both the Group Embedded Figures Test (GEFT) and the Student Demographic Data Form (SDDF). Both instruments were completed by pencil.

Variables

The independent “predictor” variables for this study were (a) gender, (b) ethnicity, (c) cognitive learning styles, (d) school schedules, (e) foreign language grade point average (FLGPA) and (e) GEFT test scores. The dependent “criterion” variable for this study was the French End of the Course Examination (FECE): Level 1 scores.

To analyze the data, gender was classified as follows: (a) Male=1 and (b) Female=2. Race was classified as follows: (a) White=1, (b) African-American=2, (c) Hispanic=3, and (d) other =4. Cognitive learning styles were classified as follows: (a) field independent=1 and (b) field dependent=2. The four levels of school schedules were classified as follows (a) alternative day A/B schedule=1, (b) regular 4 x 4 block schedule=2, (c) traditional=3, and (d) the seventh period rotating schedule=4. Foreign language grade point average (FLGPA) was classified as (a) A=5, (b) B=4, (c) C=3, (d) D=2, and (e) F=1. The dependent “criterion” variable was classified as follows: (a) A=5, (b) B=4, (c) C=3, (d) D=2, and (e) F=1.

Population

The target population for this study was all first year French 1 students in Florida. The accessible population for this study was 186 high school students enrolled in French 1 who took the FECE: Level 1, during the 2006-2007 school year. The sample for this
study examined 68 students who attended four different public high schools in a large South Florida school district.

Instruments

Three instruments were used to gather data: (a) The French End of the Course Examination (FECE), (b) the Group Embedded Figures Test (GEFT), and (c) the Student Demographic Data Form (SDDF). The FECE: Level 1 test was administered by the South Florida school district. The Group Embedded Figures Test (GEFT) (Witkin, Oltman, Raskin, & Karp, 1971) and the Student Demographic Data Form (SDDF) were administered by the researcher. The school district’s FECE: Level 1 was the testing instrument. This instrument was administered as a mid-term examination and as a final examination by the school district. The researcher was not involved in the administration of these exams. The FECE was developed by the school district according to the Florida Sunshine State Standards (FSSS) in foreign language learning. The test was distributed to foreign language teachers through the school district’s Foreign Language Department. The test had been adjudged to have good content validity based upon a panel of foreign language teachers from the district.

The GEFT, a widely recognized survey, was used to measure students’ cognitive learning styles. The GEFT was developed for research into cognitive functioning, but it has become a recognized tool for exploring (a) analytical ability, (b) social behavior, (c) body concept, (d) preferred defense mechanism and (e) problem solving style.

The GEFT item assessments are contained in a 32 page non-reusable booklet. The GEFT comes with a GEFTS Manual/Sampler Set, GEFTE Booklets (comes in packages of 25), and GEFTK Scoring Key. The GEFT is individually administered. The GEFT is a
timed, pencil-and- paper test, that requires about 12 minutes to complete (2 timed sections), and is efficient to score. The GEFT booklet is divided into 3 sections. The first section is practice and contains 7 relatively easy sample items. The first section takes 2 minutes to complete. The second and third sections each contain 9 more difficult items. The second and third sections take 5 minutes each to complete. The last page of the booklet depicts the 8 simple figures that are labeled by letters.

Learning styles were measured by the GEFT (Witkin et al., 1971). The GEFT was designed to allow for a large number of individuals to be tested in one testing session. The national mean score for the GEFT is 11.4, with those scoring below 11.4 considered field-dependent, while those scoring above 11.4 were considered field-independent (Hoover, 2001). The GEFT is used to assess the learning style of student as either field-dependent or field-independent.

The Student Demographic Data Form’s (SDDF) primary purpose was to collect demographic information from the students such as (a) student ID, (b) scheduling method, (c) ethnicity and (d) gender. This instrument was developed by the researcher.

*The Researcher’s Role for Gaining Approval*

First, the researcher established a target population comprised of all high school French 1 students taking the FECE. According to the district’s alphabetical list of schools and centers for 2006-2007, the district operates a total of 28 high schools. Second, following protocol, a research approval packet and letter were sent to district level foreign language supervisor, requesting assistance in conducting the dissertation study. Third, the foreign language supervisor was not able to provide the researcher with any assistance. Although, the district transmitted a copy of the approval letter to each school
site, a number of schools declined to participate. As a result, the researcher contacted as many high school principals, as possible, to request approval to conduct the dissertation research study in their French 2 classes at their respective school locations.

Fourth, after gaining approval from the principals, the researcher contacted each French teacher by (a) telephone, (b) email, or (c) U.S. Mail Delivery requesting their participation in the dissertation study (See Appendix E). The researcher explained to the teachers their role and their low risk involvement. In fact, the district maintained that the teachers’ involvement in the study was on a voluntary basis. The researcher requested that the teachers read the introductory statement to their class and handout the consent form to those who elected to participate.

Based upon the responses, the researcher sent forms via e-mail and by U.S. Mail Delivery, for each student who elected to participate. A consent form accompanied the assent form in order to obtain consent from the guardian of the students. Guardians were given one week to return the consent forms in the pre-paid envelopes to the researcher. As a follow-up, the French teacher sent the research a copy of the students who elected to participate. If the parent decided not to allow their child to participate in the study, the GEFT was not administered to their child, nor was any data collected.

In accordance with normal classroom environment, testing procedures, and class size, all students in the French class whose parents gave consent for them to participate were administered the GEFT during the first week of the Fall Semester, 2007.

Researcher’s Role in Administering and Scoring the GEFT

Prior to the administration of GEFT, the researcher asked each teacher whose students elected to participate to choose a day that was non-intrusive on their daily
schedule for the researcher to administer the GEFT. The researcher was responsible for
administering and collecting the GEFT. The researcher used the student’s identification
number as a coding technique along with his or her school identification number and
name. The GEFT required the use of (a) a stop-watch, (b) test booklets, and (c) a set of
sharpened soft black pencils with erasers. The researcher distributed the test booklets and
pencils. As soon as the identifying information on page 1 had been completed, the
researcher said: “Now start reading the directions on page 2, which include two practice
problems for you to do.” After all subjects finished reading and completing the practice
problems on pages 2 and 3, the researcher reviewed certain points as key reminders,
stressing the necessity for tracing all lines of the simple form correctly.

Next, the researcher directed the participants to start, and informed them that they
had two minutes for the seven problems in the first section. After two minutes the
researcher said stop. Then, the researcher told the participants that they had five minutes
for the nine problems in the second section. After five minutes, the researcher said stop,
whether you are finished or not. Then, the researcher told the participants to start the third
section. After five minutes, the researcher told the participants to stop and close their test
booklets. Scoring was the total number of simple forms correctly traced in the Second
and Third Sections combined. Omitted items were scored as incorrect. The First Section
was not included in the total score.

Content Validity and Reliability

The GEFT was reliable (alpha = .84) and significantly related to both the
individually administered Children's Embedded Figures Test (r = .56) and Portable Rod-
and-frame Test (r = .57). Validity of the GEFT has been established by determining its
relationship with its “parent test”, the Embedded Figures Test. Correlation for the two tests are reported as .82 for male undergraduates and .63 for female undergraduates (Witkins et al. 1971). Because the GEFT is a speed test, internal consistency was measured by treating each scored section (sections two and three) as split halves. Reliability for the GEFT was obtained by comparing parallel forms. Correlations between the nine of the first section with the nine items of the second section were computed and corrected using the Spearman-Brown prophecy formula, producing a reliability of .82 for both males and females (Witkins et al. 1971). Although the school district has been employing the FECE for at least five years, there has not been any measure to establish that the FECE is valid. Additionally, the school district has not tested the instrument to determine its reliability.

Data Collection Procedures and Confidentiality

There were three instruments used in the study (a) FECE and (b) the GEFT, and (c) the DDFS. Permission to conduct the study has been obtained from the Institutional Review Board (IRB) at Florida Agricultural & Mechanical University (FAMU) in Tallahassee, Florida. The researcher completed all necessary requirements to carry out the dissertation study. Copies of the questionnaires, the consent forms and the IRB application were submitted to the school district for approval. In addition, the researcher reminded the foreign language supervisor that he would be conducting the study. The research study was done in conjunction with the FECE procedures and protocol adopted by the school district. The researcher preferred to use a stratified random sampling, however this was not possible due to the limited number of schools that participated in the study.
**Statistical Analysis**

Kendall’s tau-b correlation coefficients were employed to assess the relationship between the dependent “criterion” variable French End of the Course Examination (FECE) and each of the five independent “predictor” variables. The five independent “predictor” variables were (a) gender, (b) ethnicity, (c) cognitive learning style, (d) grade point average (GPA), and (e) school scheduling type. Correlation coefficients, which can vary from -1 to +1 can help determine both the magnitude and direction of pairwise relationship. The sign of the magnitude verifies whether the relationship is positive or negative, whereas the numerical part of the correlation coefficient indicates the magnitude of the correlation. The closer the correlation is to 1 or -1, the greater the relationship between the variables.

An Ordinal Regression procedure was employed to determine which independent “predictor” variable was the best predictor of foreign language achievement. In statistics, Ordinal Regression is a model used for prediction of the probability of occurrence of an event by fitting data to a logistic curve. It makes use of several predictor variables that may be either numerical or categories.
CHAPTER IV
RESULTS OF THE STUDY

INTRODUCTION

In Chapter IV, the results of the study based on the analysis of the data will be presented. The research questions are restated for clarity and continuity in the study. Descriptive statistics and Kendall’s tau-b Correlation Coefficient results were employed to answer the research questions. A first purpose of this study was to examine the relationship between (a) block scheduling, (b) cognitive learning styles, (c) ethnicity, (d) foreign language grade point average (FLGPA), and (e) gender and their impact on students’ French End of the Course Examination (FECE): Level 1 scores. The second purpose of this study was to investigate whether (a) school scheduling types (block schedule, 7th period rotating schedule, A/B schedule, or the traditional schedule), (b) cognitive learning styles, (c) student ethnicity, (d) foreign language grade point average (FLGPA), and (e) gender can predict student’s success in French 1, as measured by the French End of the Course Examination (FECE): Level 1 scores.

Specifically, the researcher of this study was concerned with the influence of block scheduling on student academic achievement in the study of French. The independent “predictor” variables were (a) gender, (b) ethnicity, (c) age, (d) cognitive learning style, (e) foreign language grade point average (FLGPA), and (f) school scheduling type. The dependent “criterion” variable was the academic achievement score on the French End of the Course Examination (FECE). The subjects in this study were students selected from four public high schools in a south Florida school district. Each high school employed a different scheduling type.
Research Questions

The research questions for this study are as follows:

1. Is there a relationship between school scheduling types (block schedule, traditional schedule, alternating A-B schedule or seven period rotating schedule) and students’ academic performance on the FECE: Level 1?

2. Is there a relationship between cognitive learning style scores, as measured by the GEFT, and students’ academic performance on the FECE: Level 1?

3. Is there a relationship between students’ ethnicity, as a predictor variable, and students’ performance on the FECE: Level 1?

4. Is there a relationship between students’ gender, as a predictor variable, and students’ academic performance on the FECE: Level 1?

5. Is there a relationship between students’ grade point average (GPA), as a predictor variable, and student’s academic performance on the FECE: Level 1?

6. What is the best predictor variable of students’ academic performance on the French End of the Course Examination (FECE): Level 1?

Descriptive Statistics

Table 2 displays the frequency values of all the independent “predictor” variables in the study. Approximately, sixty-five (66.2%) percent of the students were females. Males comprised thirty-five (33.8%) percent. The mean age of the sample students was 16.6 with a standard deviation of 1 (SD = 1.12). Approximately, seventy-two (72.1%) percent of the French students in this study were African American students. Approximately, eighteen (17.6%) percent of the participants were Caucasian. Hispanic students were six (5.9%) percent and with other minorities at four (4.4%) percent. With
respect to the year of study, the students consisted of a freshman (1.5%), sophomores (32.4%), juniors (30.9%), and seniors (35.3). The mean grade point average of the students was 3.64 (SD =1.2). The mean average for the French End of the Course Examination (FECE) was 3.25 (SD = 1.7).

Interestingly, the majority of the students (54.8%) earned a B or C on the French End of the Course Examination (FECE). Thirty-five (35.3) percent of the students were enrolled in the 7th Period Rotating Schedule. In the study, eighty-one (83.8%) percent of the students were field dependent learners, whereas nineteen (16.2%) percent were field independent.

Table 2

Descriptive statistics of the sample

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>Number of Students</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>23</td>
<td></td>
<td>33.8</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>45</td>
<td></td>
<td>66.2</td>
<td></td>
</tr>
<tr>
<td>Age</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>1</td>
<td></td>
<td>1.5</td>
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</tr>
<tr>
<td>15</td>
<td>13</td>
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<td>19.1</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>17</td>
<td></td>
<td>25.0</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>19</td>
<td></td>
<td>27.9</td>
<td></td>
</tr>
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<td>18</td>
<td>18</td>
<td></td>
<td>26.5</td>
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</table>
Table 2 (Continued)

**Descriptive statistics of the sample**

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<thead>
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<th>SD</th>
<th>Number of Students</th>
<th>%</th>
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</thead>
<tbody>
<tr>
<td><strong>Ethnicity</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African-American</td>
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<td>72.1</td>
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<td>72.1</td>
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<td>White</td>
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<td>17.6</td>
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<td>Hispanic</td>
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<td>Other Minorities</td>
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<td>1.5</td>
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<td>1.5</td>
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<tr>
<td>Sophomore</td>
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<td>32.4</td>
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<td>Junior</td>
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<td>30.9</td>
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<tr>
<td>Senior</td>
<td>24</td>
<td>35.3</td>
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<td><strong>Grade Point Average (GPA)</strong></td>
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<tr>
<td>A</td>
<td>19</td>
<td></td>
<td></td>
<td>27.9</td>
</tr>
<tr>
<td>B</td>
<td>20</td>
<td></td>
<td></td>
<td>29.4</td>
</tr>
<tr>
<td>C</td>
<td>20</td>
<td></td>
<td></td>
<td>29.4</td>
</tr>
<tr>
<td>D</td>
<td>4</td>
<td>5.9</td>
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<td>5.9</td>
</tr>
<tr>
<td>F</td>
<td>5</td>
<td>7.4</td>
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<td>7.4</td>
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<td><strong>School Scheduling Type</strong></td>
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<td></td>
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<tr>
<td>A/B Alternating Day</td>
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<td>26.5</td>
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<tr>
<td>Block</td>
<td>14</td>
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<td>20.6</td>
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Table 2 (Continued)

Descriptive statistics of the sample

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<th>%</th>
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<td>Traditional</td>
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<td>17.6</td>
</tr>
<tr>
<td>7th Period Rotating Day</td>
<td>24</td>
<td>35.3</td>
<td></td>
<td>35.3</td>
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</tbody>
</table>

Cognitive Learning Style

<p>| | | | | |</p>
<table>
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<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Field Dependent</td>
<td>57</td>
<td>83.8</td>
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<td></td>
</tr>
<tr>
<td>Field Independent</td>
<td>11</td>
<td>16.2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3 reports the cross-tabulation of French End of the Course Examination (FECE) scores by gender. This table also revealed that there was a higher concentration of B and C grades than A, D, and F grades among female students than male students.

Table 3

French End of the Course Examination Scores by Gender

<table>
<thead>
<tr>
<th>Variable</th>
<th>Grade</th>
<th>Gender</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>FECE</td>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>A</td>
<td>4</td>
<td>7</td>
<td>16.2</td>
</tr>
<tr>
<td>B</td>
<td>6</td>
<td>13</td>
<td>27.9</td>
</tr>
<tr>
<td>C</td>
<td>6</td>
<td>13</td>
<td>27.9</td>
</tr>
<tr>
<td>D</td>
<td>5</td>
<td>9</td>
<td>20.6</td>
</tr>
<tr>
<td>F</td>
<td>2</td>
<td>3</td>
<td>7.4</td>
</tr>
<tr>
<td>Total</td>
<td>23</td>
<td>45</td>
<td>100</td>
</tr>
</tbody>
</table>

Note. N=68
Table 4 reports the cross-tabulation of the French End of the Course Examination (FECE) scores by ethnicity. This table reveals that African-American students comprised 49 of the 68 students participating in the study. In addition, the table reveals that a higher concentration of B, C, and D grades than A and F grades for African American students.

Table 4

*French End of the Course Examination Scores by Ethnicity*

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Variable</th>
<th>Grade</th>
<th>African Amer.</th>
<th>White</th>
<th>Hispanic</th>
<th>Other Minority</th>
</tr>
</thead>
<tbody>
<tr>
<td>FECE</td>
<td></td>
<td></td>
<td>7</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B</td>
<td>12</td>
<td>5</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C</td>
<td>15</td>
<td>3</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>D</td>
<td>11</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>F</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>49</td>
<td>12</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>

Note. N= 68

Table 5 reports on the cross-tabulation of the French End of the Course Examination (FECE) results based on students’ grade level. Overall, with the exception of the freshman student, students who participated in the study were almost evenly distributed between the grade level of (a) sophomore, (b) juniors, and (c) senior.
Table 5

*French End of the Course Examination Scores by Grade Level*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Grade</th>
<th>Freshman</th>
<th>Sophomore</th>
<th>Junior</th>
<th>Senior</th>
</tr>
</thead>
<tbody>
<tr>
<td>FECE A</td>
<td>0</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>FECE B</td>
<td>1</td>
<td>6</td>
<td>7</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>FECE C</td>
<td>0</td>
<td>6</td>
<td>4</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>FECE D</td>
<td>0</td>
<td>3</td>
<td>5</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>FECE F</td>
<td>0</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1</td>
<td>22</td>
<td>21</td>
<td>24</td>
<td></td>
</tr>
</tbody>
</table>

Table 6 reports a cross-tabulation of the French End of the Course Examination (FECE) scores and Cognitive learning style scores. The table reports that there were more Field Dependent (FD) learners than Field Independent (FI) learners. Additionally, Field Independent (FI) learners represent 57 of the 68 students participating in the study.

Table 6

*French End of the Course Examination Scores by GEFT*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Grade</th>
<th>Field Dependent</th>
<th>Field Independent</th>
</tr>
</thead>
<tbody>
<tr>
<td>FECE A</td>
<td></td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>FECE B</td>
<td></td>
<td>18</td>
<td>1</td>
</tr>
<tr>
<td>FECE C</td>
<td></td>
<td>17</td>
<td>2</td>
</tr>
</tbody>
</table>
Table 6 (Cont’d)

*French End of the Course Examination Scores by GEFT*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Grade</th>
<th>Field Dependent</th>
<th>Field Independent</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>11</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>4</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>57</td>
<td>11</td>
<td></td>
</tr>
</tbody>
</table>

Table 7 displays the number of students who scored at or below the median by type of school schedule. The table reveals that a higher concentration of student scored at or below the median.

Table 7

*Median Test Table for FECE Scores*

<table>
<thead>
<tr>
<th>Scoring on the Exam</th>
<th>A/B</th>
<th>Block</th>
<th>Traditional</th>
<th>7 Day Rotating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Above the Median</td>
<td>5</td>
<td>10</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>At or below the Median</td>
<td>13</td>
<td>4</td>
<td>4</td>
<td>17</td>
</tr>
<tr>
<td>Total</td>
<td>18</td>
<td>14</td>
<td>12</td>
<td>24</td>
</tr>
</tbody>
</table>
Analyses of the Research Questions

An explanation of the research questions, as analyzed using appropriate statistical analyses, follows each research question. Each research question was analyzed by employing a Kendall’s tau-b Correlation Coefficient, non-parametric inferential statistics, to determine if a (a) weak, (b) moderate, or (c) strong relationships existed between the criterion variable French End of the Course Examination (FECE) and the predictor variables of (a) gender, (b) ethnicity, (c) cognitive learning style, (d) grade point average (GPA), and (e) school scheduling type.

Research Question 1

Research Question One: Is there a relationship between school schedule and students’ academic performance on the French End of the Course Examination (FECE): Level 1?

In order to determine if there was a relationship between school schedule and students’ academic performance, the predictor variable school scheduling type and the criterion variable of French End of the Course Examination (FECE) were analyzed using the Kendall’s tau-b Correlation Coefficient, a non-parametric procedure. An extremely negatively weak correlation was found (tau-b (66) = -.003, p > .05), indicating no statistically significant correlation between the two variables. School schedule was not related to the French End of the Course Examination (FECE) grade. Table 8 reports the Kendall tau-b correlation between school schedule and FECE. The table displays that the predictor variable school scheduling type is negatively associated with the FECE.
Table 8  
*Correlation for FECE and School Schedule*

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>1</th>
<th>2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. School Schedule</td>
<td>68</td>
<td>------</td>
<td>-.003</td>
<td>.977</td>
</tr>
<tr>
<td>2. FECE</td>
<td>68</td>
<td>-.003</td>
<td>------</td>
<td></td>
</tr>
</tbody>
</table>

**Research Question 2**

*Research Question Two: Is there a relationship between cognitive learning styles scores and students’ academic performance on the French End of the Course Examination (FECE): Level 1?*

In order to determine if there was a relationship between cognitive learning styles scores and students’ academic performance, the predictor variable cognitive learning styles and the criterion variable of French End of the Course Examination (FECE) were analyzed using Kendall’s tau-b Correlation Coefficient, a non-parametric procedure. An extremely weak correlation was found (tau-b (66) = -.003, p > .05), indicating no statistically significant correlation between the two variables. Cognitive learning styles scores were not related to the French End of the Course Examination (FECE) grade. Table 9 reports the Kendall tau-b correlation between cognitive learning style and FECE. The table displays that the predictor variable cognitive learning style is negatively associated with the FECE.
Table 9

*Correlation for FECE and Cognitive Learning Styles*

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>1</th>
<th>2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cognitive Learning Style</td>
<td>68</td>
<td>------</td>
<td>-.003</td>
<td>.747</td>
</tr>
<tr>
<td>2. FECE</td>
<td>68</td>
<td>-.003</td>
<td>--------</td>
<td></td>
</tr>
</tbody>
</table>

Research Question 3

Research Question Three: Is there a relationship between ethnicity, as predictor variables and students’ performance on the French End of the Course Examination (FECE): Level 1 scores?

In order to determine if there was a relationship between ethnicity and students’ academic performance, the predictor variable ethnicity and the criterion variable of French End of the Course Examination (FECE) were analyzed using Kendall’s tau-b Correlation Coefficient, a non-parametric procedure. A Kendall’s tau-b Correlation Coefficient was calculated for the relationship between ethnicity and the French End of the Course Examination (FECE) scores. An extremely weak correlation was found (tau-b (66) = .154, p > .05), indicating a statistically insignificant correlation between the two variables. Ethnicity is poorly related on the French End of the Course Examination (FECE) grade. Table 10 reports the Kendall tau-b correlation between ethnicity and FECE. The table displays that the predictor variable ethnicity is very weakly associated with the FECE.
Table 10

*Correlation for FECE and Ethnicity*

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>1</th>
<th>2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Ethnicity</td>
<td>68</td>
<td>------</td>
<td>.154</td>
<td>.166</td>
</tr>
<tr>
<td>2. FECE</td>
<td>68</td>
<td>.154</td>
<td>--------</td>
<td></td>
</tr>
</tbody>
</table>

Research Question 4

Research Question four: Is there a relationship between student gender, as a predictor variable, and students’ academic performance on the FECE: Level 1?

In order to determine if there was a relationship between gender and students’ academic performance, the predictor variable gender and the criterion variable of French End of the Course Examination (FECE) were analyzed using Kendall’s tau-b Correlation Coefficient, non-parametric procedure. A Kendall’s tau-b Correlation Coefficient was calculated for the relationship between gender and the French End of the Course Examination (FECE) scores. An extremely weak correlation was found (tau-b (66) = .016, p > .05), indicating a very weak statistically insignificant correlation between the two variables. Gender is not related to the French End of the Course Examination (FECE) grade. Table 11 reports the Kendall tau-b correlation between gender and FECE. The table displays that the predictor variable student is very weakly associated with the FECE.
Table 11

*Correlation for FECE and Gender*

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>1</th>
<th>2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Ethnicity</td>
<td>68</td>
<td>------</td>
<td>.016</td>
<td>.885</td>
</tr>
<tr>
<td>2. FECE</td>
<td>68</td>
<td>.016</td>
<td>------</td>
<td></td>
</tr>
</tbody>
</table>

Research Question 5

**Research Question five: Is there a relationship between student’s foreign language grade point average (FLGPA), as a predictor variable, and student’s academic performance on the FECE: Level 1?**

In order to determine if there was a relationship between foreign language grade point average (FLGPA) and students’ academic performance, the predictor variable FLGPA and the criterion variable of French End of the Course Examination (FECE) were analyzed using Kendall’s tau-b Correlation Coefficient, a non-parametric procedure. A Kendall’s tau-b Correlation Coefficient was calculated for the relationship between FLGPA and the French End of the Course Examination (FECE) scores. A positively strong correlation was found (tau-b (66) = .655, p > .05), indicating a statistically significantly high correlation between the two variables. Students who have a high FLGPA perform well on the French End of the Course Examination (FECE). Table 12 reports the Kendall tau-b correlation between FLGPA and FECE. The table displays that
the predictor variable foreign language grade point average is strongly associated with the FECE.

Table 12

*Correlation for FECE and FLGPA*

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>1</th>
<th>2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. FLGPA</td>
<td>68</td>
<td>------</td>
<td>.655</td>
<td>.000</td>
</tr>
<tr>
<td>2. FECE</td>
<td>68</td>
<td>.655</td>
<td>------</td>
<td></td>
</tr>
</tbody>
</table>

**Research Question 6**

**Research Question six: What is the best predictor variable of student’s academic performance on the French End of the Course Examination (FECE): Level 1?**

Table 13 presents the data for significant correlations between predictor variables with 1, 2, 3, 4, 5, and 6 representing the same categories vertically and horizontally. For instance (1) represents “Foreign Language Grade Point Average”, and (2) represents “GEFT” on both the vertical and horizontal axis. The rows and columns 3 through 6 can be interpreted in the same manner. A Kendall’s tau-b Intercorrelations Coefficient revealed that there was a statistically significant relationship between foreign language grade point average (FLGPA) and French End of the Course Examination (FECE).
Table 13

*Kendall’s tau-b Intercorrelations Matrix*

<table>
<thead>
<tr>
<th>Measures</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. FLGPA</td>
<td>------</td>
<td>-.004</td>
<td>.062</td>
<td>.021</td>
<td>.008</td>
<td>.655</td>
</tr>
<tr>
<td>2. GEFT</td>
<td>------</td>
<td>.193</td>
<td>-.113</td>
<td>.173</td>
<td>-.003</td>
<td></td>
</tr>
<tr>
<td>3. Ethnicity</td>
<td>------</td>
<td>-.480</td>
<td>.292</td>
<td>.154</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Gender</td>
<td>------</td>
<td>-.079</td>
<td>.016</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Schedule</td>
<td>------</td>
<td>-.003</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. FECE</td>
<td>------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

According to the data analysis, the French End of the Course Examination (FECE) was strongly correlated to foreign language grade point average (FLGPA) (tau-b = .655). A moderate relationships were also found between student ethnicity and gender (tau-b = -.480). A weak relationship was found between ethnicity and school schedule (tau-b = 292). A weak relationship was also found between cognitive learning style and school scheduling type (tau-b = .173).

In order to determine the best predictor of foreign language achievement, the researcher conducted an ordinal regression analysis. This analysis is where several variables are combined to predict an outcome. The adjusted $R^2$ of .595 indicates that the regression model accounted for 60% of the variance in foreign language grade point average (FLGPA). The ANOVA output reports whether the model results in statistically
significant prediction. Table 14 displays the ANOVA table. In this case, the outcome is statistically significant (i.e. $p < .05$). FLGPA strongly predicted FECE in the model.

Table 14

*ANOVA table for Gender, Race, FLGPA, School Schedule, and GEFT*

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>57.968</td>
<td>5</td>
<td>11.594</td>
<td>20.666</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>34.782</td>
<td>62</td>
<td>.561</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>92.750</td>
<td>67</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 15 displays the ordinal regression analysis. The results of the analysis revealed that race and FLGPA were significant predictor variables on the French End of the Course Examination (FECE). The sample was heavy populated by African-American students; therefore race was shown as a significant predictor.
Table 15

*Ordinal regression model for predictor variables*

<table>
<thead>
<tr>
<th>Model</th>
<th>$B$</th>
<th>$SE$</th>
<th>$B$</th>
<th>$t$</th>
<th>$Sig$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-.038</td>
<td>.554</td>
<td>-.068</td>
<td>.946</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>.174</td>
<td>.211</td>
<td>.071</td>
<td>-.879</td>
<td>.410</td>
</tr>
<tr>
<td>Race</td>
<td>.309</td>
<td>.136</td>
<td>.209</td>
<td>2.262</td>
<td>.027</td>
</tr>
<tr>
<td>FLGPA</td>
<td>.769</td>
<td>.078</td>
<td>.763</td>
<td>9.792</td>
<td>.000</td>
</tr>
<tr>
<td>School Schedule</td>
<td>-.067</td>
<td>.080</td>
<td>-.070</td>
<td>-.833</td>
<td>.408</td>
</tr>
<tr>
<td>GEFT</td>
<td>-.010</td>
<td>.021</td>
<td>-.041</td>
<td>-.490</td>
<td>.626</td>
</tr>
</tbody>
</table>

Note. $R^2 = .63$

*Chapter Summary*

The data analyses presented in this chapter provided evidence to answer the six research questions on the correlation between the French End of the Course Examination (FECE) in four South Florida public high schools. The findings were presented in narrative and table form for each question. For this study, the researcher conducted a Kendall tau-b Correlation Coefficient to examine the relationships and strength of the predictor variables and the criterion variable in the study. The predictor variables were (a) student ethnicity, (b) cognitive learning style, (c) school schedule, (d) foreign language grade point average (FLGPA), and (e) gender. The criterion variable was the
French End of the Course Examination (FECE): Level 1 for students enrolled in four public high schools in a South Florida school district.

The analyses conducted in this study revealed that there was a weak relationship between school scheduling type and students’ academic performance on the French End of the Course Examination. The results also revealed that there were weak relationships between (a) cognitive learning styles, (b) ethnicity, (c) student gender, (d) school schedule, and (e) students’ academic performance on the French End of the Course Examination (FECE) at p. < .05. However, the results of the analyses revealed that there was a strong relationship between foreign language grade point average (FLGPA) and students’ academic performance on the French End of the Course Examination (FECE) at p. < .01. FLGPA was the best predictor variable of the students’ academic performance.
CHAPTER V
SUMMARY, CONCLUSIONS, AND IMPLICATIONS

INTRODUCTION

This chapter presents the findings, conclusions and implications of this study. The purpose of this study was to examine the relationship between (a) block scheduling, (b) cognitive learning styles, (c) ethnicity, (d) foreign language grade point average (FLGPA), and (e) gender and their impact on students’ French End of the Course Examination (FECE): Level 1 scores. The second purpose of this study was to investigate whether (a) school scheduling types (block schedule, 7th period rotating schedule, A/B schedule, or the traditional schedule), (b) cognitive learning styles, (c) student ethnicity, (d) foreign language grade point average (FLGPA), and (e) gender can predict student’s success in French 1, as measured by the French End of the Course Examination (FECE): Level 1 scores. The predictor variables were (a) student ethnicity, (b) gender, (c) cognitive learning style, (d) grade point average, and (e) school scheduling types.

Chapter five is presented in the following manner: (a) A Summary of the Study, (b) Methodology, (c) Problem Statement, (d) Research Questions, (e) Summary of Findings, (f) Conclusions and Implications, and (g) Recommendations for Further Study.

Statement of the Problem

Throughout the United States, many school districts are altering instructional time by adopting either the 4 x 4 block schedule or the alternating day (A/B) block schedule in an attempt to enhance student achievement (Chang, 2006). The Florida Educational Research Council commissioned a study and found that the block schedule was employed in as many as 200 Florida high schools. Of those 200 Florida high schools, only five
schools reported having used the block schedule for five years or more. Block scheduling is a new experience for many high schools. The change in scheduling has affected administrators, teachers, students, and parents (Dow & George, 1998). Some educators suggested that block scheduling has the possibility of improving student achievement (Cobb, Abate, & Baker, 1999; Queen, 2003; Shortt & Thayer, 1999). But a correlation between block scheduling and student achievement has not been fully established (Hackmann, 1999).

A review of the literature finds only a few studies have examined the effect of block scheduling on specific school subjects. According to Lewis, Wincor, Cobb, Gliner, and Schmidt (2005) research studies at the high school level have only examined the effect of block scheduling on science (McCreary & Hausman, 2001; The College Board, 1998), English (Brake, 2000; Schreiber et al., 2001; The College Board, 1998), mathematics (Brake, 2000; Schreiber et al., 2001; Walker, 2000), and history (The College Board, 1998). A review of the literature is void of any study examining the effect of block scheduling and French student achievement at the high school level.

Most of the research has investigated the relationship between cognitive, affective, personality, and demographic variables in predicting foreign language achievement (Gardner, Tremblay, & Masgoret, 1997; Onwuegbuzie, Bailey, & Dailey, 2001). One study investigated the relationship between cognitive, affective, demographic variables and instructional practices in relationship to foreign language achievement (Gersti, 2002). Only two studies (Lapkin, Harley, & Hart, 1997; Wallinger, 1998) examined the effect of block scheduling on student achievement in French at the middle school level. In a Canadian study, Lapkin, Harley et al. (1997) found differences in favor
of block scheduling. Their study revealed that three quarters of the students reported that the longer class periods in both the 4 x 4 semester and AB plan made it easier to speak French and interact with the teacher. But a similar majority of students reported being tired, less attentive, and bored in the longer French periods than in the shorter periods in the traditional scheduling plan. In a U.S. study, Wallinger (1998) found no differences in student achievement in the block or the traditional schedule in French at the middle school level.

Due to the lack of empirical research and the gap in the literature in block scheduling and student achievement in French at the high school level, this study is needed. More research is needed to determine whether there is a link between alternative scheduling, cognitive learning styles and student achievement at the high school in French.

Summary of Study

The population of this study consisted of four French Level 2 classes at four public high schools in a south Florida school district during the 2007-2008 school year. The study focused on determining if (a) the school scheduling type, (b) cognitive learning styles, (c) student’s ethnicity, or (d) gender could predict student’s academic achievement in the French End of the Course Examination (FECE): Level 1. The scheduling types were (a) block schedule, (b) 7th period rotating schedule, (c) A/B schedule, and (d) the traditional schedule. The criterion variable was the French End of the Course Examination (FECE): Level 1. The researcher examined the variables to determine the relationship between the independent predictor variables and the dependent criterion variable. A Kendall’s tau-b Correlation Coefficient was conducted for each question to
determine if significant relationships exist between the independent predictor variables and student academic achievement. The researcher also employed an Ordinal Regression Analysis to determine the best predictor variable of students’ performance on the French End of the Course Examination (FECE).
Methodology

A correlational research design for this study was selected to examine the relationship between predictor variables and the French End of the Course Examination (FECE) in a south Florida school district. The relationships between the independent predictor variables and a criterion variable were examined. The subjects were enrolled at four public high schools that were similar in (a) high school configuration (9-12), (b) student body demographics, and (c) student population.

A District Approval Letter was transmitted to each public high schools stating that the Research Services Department had approved proposal, #470 The impact of block scheduling and cognitive learning styles on the prediction of foreign language success in high school French course (see Appendices F and G). Additionally, due to travel constraints and the school holiday schedule, the researcher requested an extension to complete the dissertation study (see Appendices H and I). All ninth through twelve grade students actively enrolled in French as a foreign language were encouraged to participate in this study. In order to provide students with an incentive to return the signed inform consent, the principal suggested that the researcher purchased McDonald’s Gift Cards. The classroom teachers also supported providing students with incentives. However, students at one public high school suggested that the researcher purchased 2 MP3 players for a classroom raffle. After securing parental permission and returning the inform consent to the researcher, student were given both the Group Embedded Figures Test (GEFT) and the Student Demographic Data Form (SDDF) to be completed by pencil. A total of 74 students secured the necessary documentation and completed the GEFT and the SDDF.
Research Questions, Findings, Conclusions and Implications

The basis for this study was to determine if there was a relationship between academic achievement with respect to their performance and the French End of the Course Examination (FECE). Student performance can be viewed with other variables that might have an independent affect on student academic achievement. The following paragraphs identify some of the predictor variables used in this study to determine if relationships existed between the independent predictor variables and the criterion variable. In addition to the research questions, the findings, conclusions and implications are presented for each of the research questions.

Based upon the purpose of the study, the following research questions were examined.

**Research Question one:** Is there a relationship between school schedule and students’ academic performance on the French End of the Course Examination (FECE): Level 1?

**The findings relative to research question one were:** The independent predictor variable, school schedule was evaluated by a Kendall tau-b Correlation Coefficient to ascertain the relationship and the strength to the dependent criterion variable French End of the Course Examination (FECE). The strength of the relationship between school schedule and students’ academic performance on the FECE, as assessed by Kendall tau-b, yielded a weak insignificant relationship.

**Conclusions and implications for research question one was:** The non-significant findings to this research question negate the assumptions that block scheduling has a significantly positive relationship with academic achievement. The findings were consistent with Veal and Schreiber (1999) who analyzed data using the
scheduling type as the independent variable and the cognitive skills index and the GPA as covariates. Although there was a statistical difference in mathematics computation scores, block scheduling did little for mathematic achievement and conceptual understanding. Additionally, the results revealed that there was no statistical significant difference between reading and language scores. The non-significant results are also consistent with Harmston, Pliska, Ziomeck, and Hackmann (2003) who investigated the mean ACT assessment scores of 450 public high schools in Illinois and Iowa. Their results revealed that schools on the eight period daily schedule demonstrated a slight upward trend in ACT composite scores over a period of time, when compared block scheduled schools who did not show any consistent trend.

**Research Question Two:** Is there a relationship between cognitive learning styles scores and students’ academic performance on the French End of the Course Examination (FECE): Level 1?

**The findings relative to research question two were:** The independent predictor variable, cognitive learning styles was evaluated by a Kendall tau-b Correlation Coefficient to ascertain the relationship and the strength to the dependent criterion variable French End of the Course Examination (FECE). Contrary to expectations, the results revealed insignificant correlation between participant’s foreign language achievement and the cognitive styles scores. The results also suggested that cognitive style had an insignificant relationship with the students’ achievement scores. In other words, the students’ cognitive style did not affect achievement scores.

**Conclusions and implications for research question two were:** Based on the findings, the students’ cognitive learning style scores were not significant for the study.
The researcher’s findings are inconsistent with Johnson, Prior, and Arturo (2001) and Hsiao (1999) that found that cognitive learning styles are major predictors of foreign language achievement. Due to the limited research in the area of foreign language achievement and cognitive learning styles, the district may determine to investigate student’s learning styles further.

**Research Question three:** Is there a relationship between student ethnicity, as a predictor variables and students’ performance on the French End of the Course Examination (FECE): Level 1?

**The finding relative to research question three were:** The independent predictor variable, student ethnicity was evaluated by a Kendall tau-b Correlation Coefficient to ascertain the relationship and the strength to the dependent criterion variable French End of the Course Examination (FECE). Based upon the findings, there was a weak relationship between student ethnicity with student academic achievement scores for the FECE.

**Conclusions and implications for research question three were:** Based upon the findings, student ethnicity revealed a weak correlation between French End of the Course Examination (FECE) scores. These results are consistent with Wa Njogu (2001) which reported that ethnicity obtained a low correlation of .03. However, Park (2002) found significant ethnic group difference as well as achievement level difference in basic learning style preferences. Furthermore, a multivariate analysis of variance (MANOVA) revealed a significant affect for ethnicity. Wilks Lambda = .86. These results suggest that ethnicity may vary between different groups.
**Research Question four:** Is there a relationship between student gender, as a predictor variable, and students’ academic performance on the FECE: Level 1?

**The findings relative to research question four were:** The independent predictor variable, student gender was evaluated by a Kendall tau-b Correlation Coefficient to ascertain the relationship and the strength to the dependent criterion variable French End of the Course Examination (FECE). There was a weak relationship between students’ gender with student academic achievement scores for the FECE.

**Conclusion and implications for research question four:** The non-significant findings to this research question negate the assumptions about students’ gender and student academic performances are correlated. The findings were inconsistent with Wa Njogu (2001) which found a significant difference in the performance of students based on gender.

**Research Question five:** Is there a relationship between student foreign language grade point average (FLGPA), as a predictor variable, and student’s academic performance on the FECE: Level 1?

**The findings relative to research question five:** The independent predictor variable, student foreign language grade point average (FLGPA) was evaluated by a Kendall tau-b Correlation Coefficient to ascertain the relationship and the strength to the dependent criterion variable French End of the Course Examination (FECE). The findings revealed that there was a high correlation between student foreign language grade point average and student performance on the French End of the Course Examination (FECE).
Conclusions and implications for research question five: Based upon the findings, student foreign language grade point average (FLGPA) revealed a strong positive relationship to student academic achievement. The researcher’s findings concur with Onwuegbuzie et al. (2000), who examined an array of cognitive, affective, personality, and demographic variables. Onwuegbuzie et al. (2000) found that overall academic achievement was best measured by student’s grade point average (GPA), explaining 11.5% of the variance. Additionally, Deuel (1999) reported statistically significant grade point average (GPA) gains for students on a block schedule. The findings suggest that GPA is a good indicator of student performance. Instructional staff, parents, and students should be aware of the affect that students grade point average can have on academic achievement.

Research Question six: What is the best predictor variable of students’ academic performance on the French End of the Course Examination (FECE): Level 1 scores?

The findings relative to research question six were: All independent predictor variables were evaluated employing an ordinal regression analysis to ascertain which variable was the best predictor of academic performance on the dependent criterion variable French End of the Course Examination (FECE). The findings revealed that students’ grade point average (GPA) was the best predictor of academic performance.

Conclusions and implications for research question six: Based upon the findings students’ GPA best predict their achievement. The findings in this study revealed a variance of 60%. The variance was higher in this study than in Onwuegbuzie et al. 2000. Onwuegbuzie found that overall academic achievement was best measured by student’s grade point average (GPA), explaining 11.5% of the variance. The high
variance level supports Onwuegbuzie results that GPA explains a large part of the variance between student performances.

Discussion

The purpose of this study is to determine whether (a) school scheduling types (block schedule, traditional schedule, alternating A/B schedule, and seven period rotating schedule), (b) cognitive learning styles, (c) student ethnicity, (d) foreign language grade point average (FLGPA), and (e) gender can predict student’s success in French I, as measured by the French End of the Course Examination (FECE): Level I.

The research devoted to teaching foreign language is extensive; however the area of comparing demographic predictor variables to academic achievement is limited. A limited focus has been placed on predictor variables leading to causes that increase student academic achievement in foreign language learning. As revealed in the literature review of this study, all of these are important when analyzing block scheduling and foreign language achievement.

In support of the previously mentioned research by Onwuegbuzie et al. 2000, the statistical analyses of the quantitative data in this study revealed that one significant relationship, the grade point average (GPA), is the best predictor of foreign language achievement. GPA was the independent predictor variable that revealed a high correlation to the dependent criterion variable. Based on the research, students’ knowledge of their FLGPA is as important as their French End of the Course Examination (FECE) score. This should not be surprising because the FLGPA is directly pertinent to foreign language learning. Students’ overall academic achievement is important because it can predict foreign language achievement, probably because the
GPA is a more reliable indicator than self-perception. The fact that the other predictor variables were reported weak relationships should not be alarming. Onwuegbuzie et al. 2000 found that gender explained 3.6% of the variance in foreign language achievement.

**Recommendation for Further Study**

Considering the review of the literature and findings of the relationships between the predictor variables and criterion variables and the statistical differences in measure of student academic achievement, the following recommendations for further study are made:

1. Further research is needed in the area of foreign language grade point average (FLGPA) and its impact on foreign language learning.
2. Further study should be conducted with a larger sample. A large sample may produce a different result.
3. Further study should be conducted employing different school scheduling types such as the hybrid schedule.
4. The Florida Legislature should instruct each school district to perform rigorous psychometric testing on all end of the course examination tests to measure their (a) content validity, (b) construct validity, (c) criterion validity, (d) test-retest reliability and (e) internal consistency
5. The Florida Legislature should instruct the Department of Education (DOE) to monitor and request periodic review of foreign language assessment instruments that are employed as a prerequisite for college entrance.
6. Further study should be conducted with a more diverse sample. Due to the voluntary nature of this study, the sample was mostly comprised of African American students.
APPENDIX A
Student Demographic Data Form (SDDF)

The Impact of Block Scheduling and Cognitive Learning Styles on the Prediction of Foreign Language Success in a High School French Course

Part A: Student Demographic Data Form (SDDF)

Please answer the following questions as best as you can. If you need any help, please raise your hand. Your answers are secret.

<table>
<thead>
<tr>
<th>Item</th>
<th>Demographic Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ID: ______________________</td>
<td></td>
</tr>
<tr>
<td>2. Name of School: ______________________</td>
<td></td>
</tr>
<tr>
<td>3. Race: [ ] White [ ] Black [ ] Other Minority</td>
<td></td>
</tr>
<tr>
<td>4. Gender: [ ] Male [ ] Female</td>
<td></td>
</tr>
<tr>
<td>5. How old are you? [ ] 14 yrs. old [ ] 15 yrs. old [ ] 16 yrs. old [ ] 17 yrs. old [ ] 18 yrs. old</td>
<td></td>
</tr>
<tr>
<td>6. My grade level is: [ ] Freshman [ ] Sophomore [ ] Junior [ ] Senior</td>
<td></td>
</tr>
<tr>
<td>7. I am enrolled in: [ ] French 2</td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX B

SAMPLE PARENT LETTER OF CONSENT FOR DISSERTATION STUDY

April 15, 2007

Dear Parents or Guardian of ___________________

My name is Mr. André LaVon Grant. I am a foreign language teacher and also a doctoral candidate at Florida Agricultural & Mechanical University (FAMU) in Tallahassee. I am writing to ask your permission to have your child participate in my dissertation study. The ultimate purpose of this study is to investigate the effects of block scheduling or alternative scheduling on foreign language achievement in high school French language courses.

The study will be conducted in your child’s French language class in two separate sessions of approximately 30 to 40 minutes. In the first data collection session, student will be asked to complete a survey, which is a brief demographic form asking for name, age, gender, and school scheduling format. In the second data collection session, students will be asked to complete the Group Embedded Figures Test, a learning style instrument. To assure that students’ responses to the instruments will be confidential (no one will know individual student responses) and anonymous (no one will know who participated in the study) all instruments will be coded and securely placed in a locked file cabinet away from the school campus. NO ONE will have access to any of the information, and NO ONE will know who participated in the study.

It is my hope that the knowledge gained from my study can will be beneficial to all foreign language teachers and students, including your own child, in that it will help them learn foreign language more effectively. In addition, it will provide evidence of how to increase foreign language proficiency. At the completion of this dissertation study, a packet of readings and handouts will be available for participants. The information will help student improve their own learning in general and their foreign language learning in particular. If you have any question, please feel free to call me at home at (386) 334-6907. Thank you for your support.

Sincerely,

Mr. André LaVon Grant
APPENDIX C

SAMPLE

PARENT OR GUARDIAN PERMISSION FORM FOR DISSERTATION PARTICIPATION

Dissertation Title: The impact of block scheduling and cognitive learning styles on the prediction of foreign language success in a high school French course.

Parental or Guardian Consent for Minors: I grant permission for my child, ___________________ to participate in the dissertation study being conducted by Mr. André LaVon at Florida Agricultural & Mechanical University, College of Education, Tallahassee, Florida to include my child’s End of the Year French Examination score, Group Embedded Figures Test score, and their English language final course.

Purpose of Study: The purpose of this dissertation study is to investigate the relationship between block scheduling and cognitive learning style and foreign language success for high school students in French.

Procedures: The procedures involves one session of approximately thirteen (15) minutes. Two (2) minutes to read the directions, twelve (12) minutes to complete the Group Embedded Figures Test (GEFT), and 1 minute to complete the student questionnaire. The session will be conducted prior to the testing on the End of the Year French Examination Test.

Confidentiality: All information collected in this study will be confidential, and my child will not be identified at any time.

Benefits: Freedom to I understand that the study is intended to help teachers become more effective in foreign language teaching.

Withdraw and Ask Questions: I also understand that I am free to ask questions about the study or to withdraw my permission for my child to participate at any time without penalty.

Faculty Advisor: Dr. G. Lutfi, Professor, Department of Educational
Leadership & Human Services, College of Education,
Florida Agricultural & Mechanical University,
Tallahassee, Florida.

Signature of Parent or Guardian       Date
APPENDIX D

SAMPLE INFORMED CONSENT FORM

I agree to participate in the dissertation study conducted by André LaVon Grant, a doctoral student at Florida Agricultural & Mechanical University (FAMU) in Tallahassee, Florida.

It is clear that the information I give will be kept confidential and will only be used for the purpose of this dissertation study. All response data will be stored securely in the researcher’s file cabinet for five (5) years, after which it will be destroyed. I understand I will suffer no harm as a result of my participation in this dissertation study and every measure will be used to protect my identity.

I have read and understand the information and I agree to participate in the dissertation research study. I will sign one copy of this consent and return it to the researcher. I will keep the second copy for my records.

___________________     _________________
Participant’s Name     Date

__________________     _________________
Participant’s Signature     Date
APPENDIX E

SAMPLE PARENT LETTER TO TEACHER REQUESTING PARTICIPATION IN STUDY

April 15, 2007

Dear French Teacher:

My name is Mr. André LaVon Grant. I am a foreign language teacher and also a doctoral candidate at Florida Agricultural & Mechanical University (FAMU) in Tallahassee. I am writing to request your participation in my dissertation study. The purpose is to determine the impact of block scheduling and cognitive learning styles on the prediction of foreign language success in a French high school course. The study will be conducted in your classroom. It will only take about approximately 15 minutes to administer and complete the Group Embedded Figures Test. Your participation will only involve deciding to or not to participate and determining how many of your students would elect to participate after reading this short letter to them. If you and your students do elect to participate, the students will be asked to complete a twelve minute learning style instrument.

To assure that students’ responses to the instruments will be confidential (only I will know individual student responses) and anonymous (only I will know who participated in the study) the instrument will be coded and securely placed in a locked file cabinet away from the school campus. It is my hope that the knowledge gained from my study will be beneficial to all foreign language teachers and students, including your students. It is intended to assist researchers, educators, and foreign language teachers know which scheduling format assist foreign language students more effectively. If you have any question, please feel free to call me at home at (386) 255-3227. Thank you for your support.

Sincerely,

Mr. André LaVon Grant
628 Hudson Street
Daytona Beach, Florida 32114-5114
(386) 334-6907 (Mobile)
algrant@volusia.k12.fl.us
APPENDIX G
APPENDIX H
APPENDIX I
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