

A Study of
Time Orientation, Temporal Integration and
Reading Comprehension:
Back to the Future

A Dissertation submitted in partial satisfaction of the
requirements for the degree of

Ed. D.
The School of Education
University of the Pacific

By

Tacey Ruffner

Dissertation Committee

Dr. Fred Muskal - Chair
Dr. Dennis Brennan
Dr. James Heffernan
Dr. David Baral
Dr. Christine Gray

April, 1993

© Tacey Ruffner, 1993

This dissertation, written and submitted by

Tacey Ruffner

is approved for recommendation to the Committee
on Graduate Studies, University of the Pacific

Dean of the School or Department Chairman:

Loy B. Hawley

Dissertation Committee:

Irving A. Muehl

Chairman

David P. Kline

James H. Hoffman

William L. De

Dennis P. G. Brown

Dated March 26, 1993

A Study of Time Orientation, Temporal Integration and
Reading Comprehension: Back to the Future

Abstract of the Dissertation

Problem: Lower-track high school students' combination of poor reading comprehension, *present time orientation* and *shortened temporal integration* is an area that has been identified in a range of divergent literature, but little studied in terms of educational practice. Previous research into *time orientation* and *temporal integration* has failed to investigate a connection with reading comprehension.

Purpose: The purpose was to determine if there is a relationship between *time orientation*, *temporal integration*, reading achievement/high school track level and reading comprehension.

Procedures: Two measures, a *Time Orientation Questionnaire* and a *Cloze Test of Reading Comprehension*, previously identified and pilot tested, were employed. One class in each of four track levels [College Preparatory, General, Remedial and ESL] at two high schools was tested. The data were analyzed using descriptive and inferential statistics.

Findings: The utility of the two measures was validated by this study. The data indicate that track placement affected 63% of the verb tense items reflecting *time orientation* on the *Cloze Test*, and 55% of the verb tense items reflecting *temporal integration*. The *Cloze Test of Reading Comprehension* differentiated among the four track levels of reading ability, and showed that there are temporal factors which are involved. These temporal factors have not been understood as elements which mediate between levels of reading comprehension. In addition, track placement affected 35% of the responses on the *Time Orientation Questionnaire*, which addressed *future and present time orientations*.

Recommendations: The educational problem is how to accomplish temporal intervention by teaching about a broad range of temporality. 1. The teaching should focus on establishing a sense of the future, by starting from the present and incorporating the definite (past tense) and then the indefinite past (present perfect tense) in both teacher-student interactions and reading comprehension materials. 2. The primary vehicle is language and temporally-designed reading comprehension materials throughout the high school curriculum, indicating that a temporally-sophisticated curriculum can be designed to meet the needs of at-risk students.

ACKNOWLEDGMENTS

I am indebted to Dr. Fred Muskal for being the chairman of my dissertation, and for his unfailing patience, encouragement and valuable suggestions from the day that I met him, eight years ago. I am also grateful to the other members of the committee, Drs. Dennis Brennan, James Heffernan, David Baral and Christine Gray, for their time spent in reviewing and their most helpful comments.

I would like to acknowledge the cooperation and assistance of the two principals of the schools which participated in this study: Mr. Joseph Gregori and Mr. Chris Flesuras. I appreciate very much the help that the following teachers offered: Mr. Gordon Chan, Mr. William Ewing, Mrs. Patricia Hambric, Mr. Thomas Knight, Ms. Terry Manzoni, Mr. Gary Robertson, Mr. Burt Vasche, and Mr. Bob Young. In addition, I would like to thank Mr. Rodney Owen, Principal of Elliott Education Center, for his support and special understanding of the needs of the Pregnant Minor Program. I would also like to thank Mrs. Wanda Schut, the senior teacher in the Pregnant Minor Program, for her continuing kindness in teaching me about the dynamics of the pregnant minor population. I appreciate very much the help offered to me by Mr. Joseph Trambley. Last, I would like to thank my daughter, Jessie, for the key role that she played as a three-year-old in sparking my interest in time orientation and language development, and for her support over the years.

Table of Contents

Chapter 1

Introduction	p. 9
Statement of the Problem	p. 15
Specific Research Questions, Variables, and Statistical Treatments	p. 17
Assumptions	p. 19
Definitions of Terms	p. 21
Limitations	p. 29
Significance of the Study	p. 29
Organization of the Study	p. 31

Chapter 2

Review of Relevant Literature: Educational Theory, Schema, Reading, and Time Orientation	p. 33
Piaget	p. 34
Piaget's Schema Theory	p. 35
Oller	p. 40
Educational Theory: Schemas, Reading, and Time Orientation	p. 52
Time Orientation & Self-Concept: Work in Sociology, Psychology and Education	p. 56
Bernstein	p. 57

Cottle & Klineberg, and Gonzalez & Zimbardo: Psychological Approaches to Time Orientation	p. 66
Temporal Integration	p. 72
Self-Concept, Time Orientation and Motivation	p. 76
Time Orientation and Human Development	p. 79
Summary	p. 89

Chapter 3

Methods and Instrumentation	p. 93
Cloze Testing and Reading Comprehension	p. 94
Sample Selection	p. 95
CTBS Reading Comprehension Test Scales	p. 95
The Cloze Test and Reading Comprehension	p. 96
Time Orientation Assessment	p. 99
Temporal Integration Assessment	p. 99
Cloze Test Theory and Research	p. 100
Cloze Test Description	p. 104
Time Orientation Questionnaire	p. 106
Summary	p. 106
Time Orientation Factors	p. 107
Procedures	p. 109

Chapter 4

Results	p. 111
Major Findings	p. 111
Time Orientation Questionnaire Results	p. 112
Statistical Analysis	p. 113

Research Questions 1 - 6 Results	p. 115
The Six Assessments of Temporality	p. 127
Two Assessments of Temporality	p. 131
Cloze Test Results for Future and Present Time Orientations	p. 131
Summary	p. 135
Two Additional Assessments of Temporality	p. 136
Cloze Test Results for Extended and Shortened Temporal Integration	p. 136
Summary	p. 140
Correlation of PEGs, Text, and CTBS Scores	p. 140
Summary	p. 143
Assessment of Temporality	p. 146
FutureTime Orientation Questionnaire Results	p. 146
Summary	p. 150
Assessment of Temporality	p. 151
Present Time Orientation QuestionnaireResults	p. 151
Summary of Findings for Research Questions 7 - 10	p. 155
Overall Summary of Findings for Research Questions 1-6	p. 157
Overall Summary of Findings for Research Questions 7-10	p. 158
Working Class Students	p. 158
Middle Class Students	p. 161
Overall Summary	p. 161
Chapter 5	
Implications and Recommendations	p. 163
Theoretical Orientation for Reading Instruction	p. 164

Temporal Intervention	p. 173
A Temporally-Empowering Curriculum	p. 177
Summary	p. 206
Bibliography	p. 207

Tables

Table 1	p. 116
Table 2	p. 117
Table 3	p. 118
Table 4	p. 119
Table 5	p. 120
Table 6	p. 121
Table 7	p. 122
Table 8	p. 123
Table 9	p. 124
Table 10	p. 125
Table 11	p. 126
Table 12	p. 127
Table 13	p. 127
Table 14	p. 131
Table 15	p. 132
Table 16	p. 137
Table 17	p. 138
Table 18	p. 142
Table 19	p. 147
Table 20	p. 148
Table 21	p. 149
Table 22	p. 150
Table 23	p. 153
Table 24	p. 154
Table 25	p. 155

Appendices

Appendix A: LEP Students	p. 228
Appendix B: Cloze Reading Comprehension Test	p. 230
Appendix C: Time Orientation Questionnaire	p. 233
Appendix D: Sample Permission Letter	p. 235
Appendix E: Teacher Instructions	p. 237
Appendix F: Analyses for Research Questions 7-10	p. 239
Appendix G: Two Micro-Analyses	p. 277

CHAPTER 1

INTRODUCTION

America is a pluralistic society, and California's percentage of ethnic minority children is more than 50%. After projections are made from the 1990 census figures, this number most probably will be revised upward. The current school population includes more than 48% minority children (Haycock & Navarro, 1988, pp. 7-9), and the change in ethnic composition of students has resulted in a clear mandate to educators. Since 1967, the number of minority students in California schools has increased from one million to almost three million (Curtis, 1992). Half of the world's immigration is to California (Haycock & Navarro, 1988, p. 6). Due to immigration and migration, the typical school population has become multilingual and multicultural, and increasingly working-class and poor. As the school population becomes more varied in terms of home-based educational styles and languages, it becomes ever more necessary to focus on issues which relate to student success in diverse populations.

As a pluralistic society, we manifest different social class, cultural, and linguistic traditions with contrasting *time orientations*. The two groups which are most impacted by operating within the non-mainstream, *present time orientation* are English as a Second Language and low-achieving students. The reality of many of their linguistic and socio-cultural contexts means that these students who are growing up in disadvantaged settings tend to be trapped in the present, and hopeless about the future (Annie E. Casey Foundation, 1993; cf. Moore, 1993). As the Annie E. Casey Foundation report

(1993, p. 43) shows, California has witnessed the following percentage *increases* from 1985 to 1990:

- Students not graduating from high school 5%
- Teens not in school and not in the labor force 21

California's overall graduation rate, as of 1990, is 63.1% (Ibid., p. 140).

The disadvantaged settings constitute "a culture at a disadvantage" (Williams, 1970, p. 3). These students tend not to connect present actions with future results, operating on a day-to-day, if not minute-by-minute, basis. Subsistence existence, the world of the street with its ever-present focus on survival, leads to temporal compression. For this student population, reinforced by socialization (Kohn, 1977), time is perceived as unconnected moments. Events happen without connections to the past or implications for the future; there is a profound lack of *future time orientation*. This is significant because this student population appears to have trouble with reading achievement. No connection between reading achievement and temporality has been established, but there has been much speculation stretching back several decades.

There appears to be an inverse relationship between social class and reading development. Kellmer-Pringle (1966), and Davie et al. (1972) have documented the correlation between poor readers, who generally get placed in lower tracks and then experience further reading failure (cf. Baratz, 1970; Bernstein & Henderson, 1967). In Great Britain, Kellmer-Pringle et al. (1966) grouped 11,000 seven-year-olds into three categories: good, medium and poor readers. The following percentages of poor readers were found:

social class	I (highest)	7.1 %
	II	7.1
	III	18.9
	IV	26.9
	V (lowest)	26.9

Davie et al. (1972) found that in Britain the chances of an unskilled manual worker's child being a poor reader at seven years are six times greater than those of a professional worker's child and that an unskilled worker's child has fifteen times more chances of being a non-reader at seven years. Vernon (1971) suggests that teachers expect higher reading achievement from middle-class children, and have lower, self-fulfilling expectations for working-class children.

While there is ample literature identifying the issue of *time orientation* dissonance as a general problem between schools and large groups of students, *time orientation* is largely unexplored as a research topic at the level of the individual student. There have been no studies to explore the correlation of *time orientation* with reading comprehension. Examining this factor as a possible factor in low reading achievement is a next step in focusing this line of research within an educational framework. If a linkage can be established between *time orientation* and reading comprehension, then the next step would be to address this problem within an educational framework, through both educating teachers and facilitating curriculum and materials revision and development. The degree of association between *time orientations* and levels of reading

comprehension could show which dimensions of temporality are associated with reading problems and strengths.

The dynamic involved in the at-risk student's difficulty with reading comprehension can be shown by describing the typical interaction in a remedial reading class, using the metaphor of baseball catching practice:

The teacher functions as the pitcher, the teacher's ball constitutes the curriculum/reading materials, and the at-risk student is the catcher. The catcher's mitt is primed to receive an invisible ball, not the visible one that is being thrown by the teacher. There are two concurrent baseball catching practices, *two parallel realities*. The pitching reality is visible to the middle-class eye, with rules that are understood and utilized by the pitcher. The catching reality is visible to the at-risk student's eye, with very different expectations. What the middle-class pitcher/teacher throws, the catcher/at-risk student does not receive. The ball can be thrown straight to the mitt, seemingly on the verge of landing in the middle of the mitt, and yet fall to the ground. Instead of the middle-class, visible ball from the pitcher, the at-risk student's mitt lands a ball that is invisible to the pitcher, operating in a very different reality, one that is unacknowledged by the pitcher/teacher and the curriculum/reading materials. The middle-class student understands; the working-class student misses the point. The attempted transmission from the teacher, a bundle of information and concepts based on the middle-class experience, is not apprehended by the at-risk student. Considering that most schooling is provided through reading materials, this analogy means that the transmissions to at-risk students are not completed, whether

in school or at home. According to Black (1967), 75% of a student's time in the classroom and 90% of the time spent on homework is focused on reading.

One of the themes that runs through the literature on low achievers is the degree of dissonance between the school and its clientele. Success in school is frequently attributed to the dynamic factor of *future time orientation* (Agarwal et al., 1983; Akinnaso, 1981; Bachman, et. al, 1971; Cohen et al., 1968; Cohen, 1968; Davids & Sidman, 1962; Gonzalez & Zimbardo, 1984; Kahn, 1965; LeShan, 1952; Oakes, 1982; and Ogbu, 1978). This situation biases the educational system in favor of those who share the temporal attitudes of the dominant group.

Curriculum design and reading materials seem to assume a middle-class, future-oriented experience of time, linking the past to the present, with the focus on the future. However, assumptions about how people function in time are not shared by the curriculum and non-mainstream, at-risk students. Curriculum scope and sequence have not taken into account that different socio-economic populations operate within radically different *time orientations*, and their resultant realities. At-risk students tend to develop a *time orientation*, including both their perceptions of themselves and the world at large, which is in direct opposition to the temporal assumptions that curriculum design and reading materials appear to make about how these children make sense of the educational dynamics surrounding them. There is no unilinear path of language and time socialization and development; the middle-class ways of language and time are not universal. The middle-class way of being

in the world is dramatically different from the way of being in the world for at-risk students, so that "goodness-of-fit" is lacking for this at-risk population in the schools.

The lower-track secondary students, who are recent immigrants, native-born bilinguals, and/or non-standard English speakers, share a common problem: they overfocus on the present tense. According to Vernon (1957), these students experience "cognitive confusion" while reading, in that their language usage has not typically included language as a means to transcend the present context. Almost exclusively, this *present time orientation* manifests itself linguistically through the overuse of the present tense, with an emphasis on present time only. According to Leech (1971), "the present moment, which enters into all tense specifications, may be regarded as the primary point of reference, the starting point for all reckoning of time relationships" (Leech, 1971, p. 147; emphasis not in original).

This group of lower-track students typically fails to use the present perfect tense. The present perfect tense exemplifies:

the metaphysics underlying our Indo-European linguistic conventions (which) imposes on the universe the conception of a uniformly and perpetually flowing time divided clearly into a past, present, and future as contiguous segments of a single extension, a continuum shared by all events, all subject to the same laws (Cottle & Klineberg, 1974, p. 171).

This verb tense is a critical example of language's ability to enfold many concepts under one set of symbols, (as in, "She has been a student at UOP for many years"). *The present perfect tense functions as a way of describing an activity that started in the*

indefinite past, continues to the present, and may impact the future.

The present perfect tense is a linguistic and external manifestation of the psychological reality of a future-oriented sense of time. This verb tense has had a very small place in the operating grammar which describes the daily reality of at-risk students' lives.

Statement of the Problem

Educators have sought answers beyond the classroom for the past three decades, and they have considered the cultural values, the home environment, and the language backgrounds of children as important influences on what happens, or does not happen, in the classroom. The problem of lower-track students, a combination of poor reading comprehension, *present time orientation* and *shortened temporal integration*, is an area that has been much identified in a range of divergent literature, but little studied in terms of educational practice. Previous research into *time orientation* and *temporal integration* has failed to investigate a connection with reading comprehension.

This study will focus on evaluating the possibility of a relationship between achievement and temporality. First, do students with extended temporality achieve better? Second, do students with shortened temporality achieve less well? This study will attempt to investigate the degree of relationship among reading comprehension, track level, and two underlying components of reading comprehension: *time orientation* and *temporal integration*. The

results will be utilized to remediate the teaching of reading to low-income and ESL students to improve achievement.

First, this study will determine the *time orientation* and *temporal integration*, i.e., two components of reading comprehension, of the sample in two instruments. Second, it will relate these data to their reading comprehension standardized test scores. This will be accomplished by administering three instruments. The first is the *Cloze Test of Reading Comprehension*, an instrument developed by the researcher. The second is the *Time Orientation Questionnaire* developed by Gonzalez and Zimbardo, as modified by the researcher. The third set of data will come from the district's regular *California Test of Basic Skills* administration.

If a relationship between *time orientation*, *temporal integration*, reading achievement/track level and reading comprehension can be established, then there will be a possible new way to frame reading instruction to be more effective with low-achieving groups. A reasonable next step would be to design curriculum which develops and fosters *future time orientation* and *extended temporal integration* through the use of Oller's schematic concept of *pragmatic expectancy grammar* in reading materials as a core concept. The focus and purpose of this curriculum would be to enable at-risk students to acquire a more *future-oriented time orientation*, in addition to a more *extended temporal integration*.

The purpose of the study is to determine if there is a relationship between *time orientation*, *temporal integration*, reading achievement/track level and reading comprehension. Oller's

theoretical schema of *pragmatic expectancy grammar* will be used to examine the dimensions of the relationships among these elements.

Specific Research Questions, Variables, and Statistical Treatments

This study will examine the following research questions:

1. What is the relationship of track placement to 8th-grade *CTBS reading comprehension* scores for College Preparatory vs. General vs. Remedial vs. ESL tracks? (Anova, one-factor)
2. What is the effect of track placement on reading comprehension (number of correct answers) on the *Cloze Test*? (Anova, one-factor)
3. What is the effect of track level on verb tense choices reflecting *time orientation* in reading comprehension on the *Cloze Test* for College Preparatory vs. General vs. Remedial vs. ESL tracks? (2-factor Anova {repeated}; Chi square {contingency tables})
4. What is the effect of track level on verb tense choices reflecting *temporal integration* in reading comprehension on the *Cloze Test* for College Preparatory vs. General vs.

- Remedial vs. ESL tracks? (2-factor Anova {repeated}; Chi square {contingency tables})
5. What is the relationship of track placement to *Present Time Orientation* answers on the *Time Orientation Questionnaire*? (Anova {repeated}; Chi-square (contingency tables); Multiple regression)
 6. What is the relationship of track placement to *Future Time Orientation* answers on the *Time Orientation Questionnaire*? (Anova {repeated}; Chi-square (contingency tables); Multiple regression)
 7. What is the relationship between *time orientation* (selected *Cloze Test* answers) and *future time orientation* (selected responses to the *Time Orientation Questionnaire*)? (Chi-square {contingency tables}; Anova {factorial; repeated}, and Multiple regression.
 8. What is the relationship between *time orientation* (selected *Cloze Test* answers) and *present time orientation* (selected responses to the *Time Orientation Questionnaire*)? (Chi-square {contingency tables}; Anova {factorial; repeated}, and Multiple regression.
 9. What is the relationship between *temporal integration* (selected *Cloze Test* answers) and *Future Time Orientation* (selected responses to the *Time Orientation*

Questionnaire)? (Chi-square {contingency tables}; Anova {factorial; repeated}, and Multiple regression)

10. What is the relationship between *temporal integration* (selected *Cloze Test* answers) and *Present Time Orientation* (selected responses to the *Time Orientation Questionnaire*)? (Chi-square {contingency tables}; Anova {factorial; repeated}, and Multiple regression)

Assumptions

The assumptions are shared by a range of prior studies on the effects of *time orientation*, *temporal integration*, language usage, and social class.

1. This study will assume that the process of social class socialization takes place simultaneously with the processes of second language acquisition. Most studies focus on one set of processes only. This study employs the social class socialization theoretical position. This issue emerges in some of the results of the study.
2. Social class mediates one's *time orientation*, *temporal integration* and language use, helping an individual make sense of the world.

3. There is a crude relationship between reading level, social class and track placement, in that the students placed in the College Preparatory track tend to be more middle-class, and the other three tracks (General, Remedial and ESI) are typically more working-class.
4. Peer pressure from one's social class works against assimilation of the dominant middle-class culture's values, including *future time orientation*, *extended temporal integration*, and use of Standard English.

Other related assumptions follow. First, a change in student *time orientation* from present to future would increase school success and thereby reduce the secondary school dropout rate. Second, the *time orientation* and *temporal integration* of a student can be changed through the inclusion of *time orientation* and *temporal integration* principles in appropriately designed secondary curriculum materials. The English/ language arts curriculum can be made more sensitive to the temporality and language development needs of lower track students, especially when their relationship to standardized reading test scales is established. The curriculum can be modified to develop *future orientation* and *extended temporal integration* in high school students, thereby bringing minority and working-class students into congruence with the school's *future time orientation*. This should improve reading comprehension, achievement, and retention.