An Empirical Test of Carl Jung's Collective Unconscious (Archetypal) Memory

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Abstract

The current study examined the ability of participants to recall archetypal symbols that have been matched with either their corresponding meanings or mismatched meanings. This experimental design was based on earlier work in this area (Rosen, Smith, Huston, & Gonzalez, 1991) which tested the hypothesis that archetypal symbols that are properly matched with their one word meanings are more easily remembered than mismatched symbol meaning pairs. Their results provided the first scientific evidence of the collective unconscious and enhanced recall of the meanings of unconscious archetypal symbols.

The present study took this relationship one step further by using Spanish-English bilingual participants (N = 103) and testing not only the matched versus mismatched dimension, but also the use of Spanish versus English meanings. The addition of the language dimension allowed for a test of the universality of the collective unconscious. The results revealed a significant difference between matched versus mismatched pairs, but no significant differences between recall of English versus Spanish meanings. Thus, these findings also support Jungian theory regarding recall of previously unconscious archetypal symbols and their meanings from the collective unconscious.

Introduction

In examining the role of archetypes and their universal nature, two Jungian concepts are important starting points: archetypes and the collective unconscious. In 1976, (as cited in Feist & Feist, 1998) Jung spoke of archetypes as, "...not inherited ideas, but mentally expressed instincts, forms and not contents." These ancient image schemas originate in the collective unconscious and are generalized rather than individualized, or in other words, they are archetypal schemas that are available to all individuals, and their expression

depends upon the life experience of people. Archetypes originate because of repeated experiences of our ancestors (Feist & Feist, 1998). In sum, archetypes are evolutionary (hereditary) predispositions to images, ideas, and patterns of behavior (Huston, Rosen, & Smith, 1999).

Jung's perspective on the collective unconscious is that it represents a more profound layer than the personal unconscious, and is broader as well, in the sense that it is not personal but universal. Jung describes the collective unconscious as "...concepts and modes of behavior that are more or less the same everywhere and in all individuals. It is, in other words, identical in all men and this constitutes a common psychic substrate of a suprapersonal nature which is present in every one of us" (Jung 1959, p.287). He describes the contents of the collective unconscious as based on archetypes; which are genetic predispositions to images and forms or templates that play a role in shaping people's worldview and affect how they respond to the world. According to Jungian theory, all human beings have a collective unconscious and a myriad of archetypes within it.

If, indeed, archetypes are universal it would follow that the collective unconscious would be an effective memory tool in situations where individuals are asked to recognize and memorize the relationship between symbols and words that describe the concepts represented by these symbols. Furthermore, if these archetypal symbols were present in the collective unconscious, memorization and recall of their correct meanings ought to come quite easily. Also, in cases where symbols were paired with words that did not match the concept of the symbol, it would be expected that the ability to remember such a mismatched pairing would be hampered.

Rosen, et. al. (1991) tested this very premise (see also, Huston, et. al., 1999). To accomplish this goal, they created the Archetypal Symbol Inventory (ASI). They choose 40 items from a pool of 80-100 items that were believed to be archetypal and universal rather than culture specific. For example, the symbol of the heart represents charity, whereas the bull is the symbol for power. These symbol/word pairs were then used in a cued recall memory paradigm. Research on human memory (Thompson & Tulving, 1970) has demonstrated that memory of a word is enhanced or facilitated when it is cued by a related word (e.g., nurse – doctor), than by an unrelated word (e.g., nurse – plane). Participants studied each of the symbol/word pairs and their memory was later tested by giving them the symbol (i.e., the cue) and asking them to recall the word (i.e., the target) that was previously paired with the symbol. To test for an association between the archetypal symbol and its meaning, Rosen et al. (1991) presented only half of the symbols with their proper meaning (i.e., matched pairs). The remaining symbols were matched with words that were not congruent with a universal concept (i.e., mismatched pairs). For example, the heart symbol could have been paired with the word charity to create a matched pair, or with the word power to create a mismatched pair (see Figure 1). Given Jungian theory, Rosen et al. (1991) predicted that individuals should have demonstrated better memory for properly paired symbols and concepts when compared with mismatched symbols and concepts. They found that the symbol/word pairs that were properly matched were remembered significantly more often than the mismatched pairs, thus, demonstrating a collective unconscious link between the archetypal symbol and its meaning.

Figure 1. Example of a matched pair (charity) and mismatched pair (power).

Since archetypes are universal, bilingual individuals should have little or no difficulty remembering symbols and their relationships to concepts, whether or not the individuals were tested in English or Spanish. The current study, examined the possible differential effects of language on memory for archetypes. The Jungian concept of the collective unconscious stresses the universal aspect of the human psyche rather than stressing the cultural-linguistic differences of distinct ethnic groups and nationalities. Thus, additional languages should have little or no effect on memory for archetypal symbols. Introducing the variable of language, takes us a step closer to testing the universality of archetypes.

This study is based on the research of Rosen et al. (1991). However, the current study also examined bilingual participants' ability to remember archetypal symbols and the words describing them. It was hypothesized that language should not affect participants' ability to remember archetypes, if in fact, they are universal. In other words, the matched symbol/word pairs should be remembered better than the mismatched pairs, and this effect should be present in both English and Spanish. Therefore, the following two hypotheses are proposed: (1) Matched symbol/word pairs will be recalled more often than the mismatched pairs, and (2) Language (English vs. Spanish) will not affect the recall of matched or mismatched pairs.

Table 1
Percentage recalled as a function of both English vs. Spanish and matched vs. mismatched pairs of archetypal associates

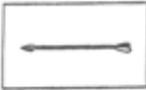| | Language | |
	English	Spanish
Matched	59%	55%
Mismatched	57%	50%
N	53	50

Method

Participants

The 103 college-age participants who volunteered to participate in the study were undergraduate students at Texas A&M International University. All of the participants were Spanish-English bilinguals. Because participants were free to enroll for any session in the experiment, there were different numbers of participants in each condition (see Table 1).

Materials and Procedure

This study utilized 38 of the 40 symbols from the Archetypal Symbol Inventory (ASI) (Rosen et al., 1991). These symbol/word pairs were independently translated into Spanish by three Spanish-English bilinguals. The Spanish label names that were ultimately used had to be generated by at least two of the three translators (See Figure 2). One symbol (generativity) was not used due to difficulties translating the word into Spanish. Another symbol (sleep) was also not utilized to ensure an equal number of matched and mismatched pairs. This symbol was eliminated through a process of random selection.

Figure 2. Archetypal Symbols with English and Spanish labels.

1. Protection / Protección	11. Origin / Origen
2. Knowledge / Conocimiento	12. Soul / Alma
3. Birth / Nacimiento	13. Earth / Tierra
4. Paradox / Paradoja	14. Power / Poder
5. Eternity / Eternidad	15. Potential / Potencial
6. Life / Vida	16. Valor / Valor
7. Harmony / Armonía	17. Self / Si mismo(a
8. Wrath / Ira	18. Spirit / Espíritu
9. Unity / Unidad	19. Perfection / Perfección
10. Progress / Progreso	20. Possibility / Posibilidad

21. Unconscious
    Inconsciente

22. Masculine
    Masculino

23. Center
    Centro

24. Ascent
    Subida

25. Purify
    Purificar

26. Beauty
    Belleza

27. Evil
    Mal

28. Completion
    Terminacion

29. Charity
    Caridad

30. Fertility
    Fertilidad

31. Rationality
    Racionalidad

32. Synthesis
    Síntesis

33. Virility
    Virilidad

34. Quest
    Busqueda

35. Transformation
    Transformación

36. Salvation
    Salvación

37. Feminine
    Femenino

38. Health
    Salud

Participants were randomly divided into two groups, 53 participants in the Spanish group and 50 subjects in the English group. Each group received 19 randomly chosen matched and 19 randomly chosen mismatched symbol/word pairs in either Spanish or English. Participants were then given five minutes to study the symbol/word pairs. Presentation order of the symbol/word pairs was randomly chosen and identical for each group. Following this procedure, all of the participants were then shown the symbols in the same order that they were originally presented. Participants were instructed to write down the word that was previously paired with the symbol. They were given five minutes to complete this task.

Results

Recall percentages of matched versus mismatched words were calculated for both the English and Spanish groups (see Table 1). This number was derived by dividing the total number of matched words correctly recalled by the total number of possible correct responses. The same procedure was also followed for the number of correctly recalled mismatched words.

A 2-way analysis of variance, using two independent variables (matched vs. mismatched and Spanish vs. English) was carried out on the data. This analysis revealed that the matched pairs were recalled significantly more often than the mismatched pairs, [F (2,101) = 13.40, p<.001]. There were no significant differences between the Spanish and English groups, suggesting that language did not affect the recall rates for either the matched or mismatched pairs. Finally, the interaction of language (Spanish vs. English) and recall type (matched vs. mismatched) was also not significant, indicating that the different languages did not appear to affect the difference in recall rates of the matched vs. mismatched pairs.

Discussion

Results demonstrated a significant difference in recall of matched pairs versus mismatched pairs. Effectiveness in remembering matched pairs was higher than in remembering mismatched pairs. Differences in this direction replicate the findings of Rosen et al. (1991) and provide further support for the Jungian concept of collective (archetypal) unconscious memory aid in recalling words that are matched with archetypal symbols.

It should also be noted that there was no significant difference in recall whether the Spanish word or the English word was paired with the archetypal symbol. Again, Jungian theory proposes the archetype as universal (i.e., transcending specific languages), therefore, there would be no difference in performance whether these bilingual participants are tested in English or Spanish. In other words, the different languages did not appear to affect the difference in recall rates of the matched vs. mismatched pairs. In summary, this study provides empirical support for the Jungian concept of the collective unconscious and ancient universal image schemas manifesting as archetypal symbols that are more easily recalled than symbol/word pairings that are not paired within the collective unconscious. Likewise, these results also theoretically support the assertion that archetypal symbols are both unconscious and universal.

References

Feist, J. & Feist, G. J. (1998). *Theories of Personality* (4ᵗʰ ed.). Boston: McGraw Hill. Jung, C. G. (1976). *Letters: II. 1951-1961* (G. Adler & A. Jaffé, Eds.). (R.F.C. Hull, Trans.). Princeton NJ: Princeton University Press.

Jung, C. G. (1959). *The Basic Writtings of C.G. Jung* (V. S. de Laszlo, Ed.). New York: The Modern Library.

Rosen, D. H., Smith, S. M., Huston, H. L., & Gonzalez, G. (1991). Empirical study of associations between symbols and their meanings: Evidence of collective unconscious (archetypal) memory. *Journal of Analytical Psychology, 36*, 211-228.

Huston, H. L., Rosen, D. H., & Smith, S. M. (1999). Evolutionary memory. In Rosen, D. L. & Luebbert, M. C. (Eds.), *Evolution of the Psyche* (pp. 139-149). Westport, Connecticut, London: Praeger.

Thompson, D. & Tulving, E. (1970). Associative encoding and retrieval: Weak and strong cues. *Journal of Experimental Psychology, 86*, 255-262.

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Does Reading a Book About Culture Increase Reading Frequency and Duration?

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Abstract

The purpose of this study was to determine if the reading of a book that pertained to an individual's culture increased reading frequency and duration. The subjects included 33 English students in a high school special education class. Before the study began, all students signed and returned a permission slip. The groups were formed by the researcher dividing each of the classes into two groups. The data collected for this study were obtained by student-kept time cards. The method for use in this study was a group design. It was hypothesized that reading a book that pertained to one's culture will increase reading frequency and duration.

Introduction

Reading is a necessity of modern life. How well a person is able to read depends on how long and how often one reads. As in playing a sport, a person must practice to become proficient. Furthermore, reading remains an important skill throughout life. Kelder (1998) states, "regardless of how people use literacy, it continues to shape how individuals understand themselves, our world, and others, and it contributes to the creation of culture" (p.21). With the increased use of standardized tests and the basic need to read to survive in society, it is of utmost importance that students receive enough reading practice to become proficient readers.

The Intercultural Development Research Association (IDRA) (1996) reports that according to the 1990 Census Bureau the percentage of illiterates in the State of Texas was 12.3%, while the national average was 9.4%. While these numbers were not broken down by age, one can clearly see that the rate of illiteracy is a problem. Among poor readers and non-readers is a second group of students who are essentially illiterate with regard to either their own culture or the cultures of others. Much of the required reading in the classroom has had little reference to the daily lives and cultures of the student. Willis (2000) stated, "Historically, children from culturally and linguistically diverse backgrounds have not experienced high levels of academic success because their literacy needs were under-addressed as they were encouraged to assimilate into the mainstream (p. 1)." Such materials have been uninteresting and hard to understand for students with little knowledge of the topics and contexts of the materials.

According to Au (2002) the National Assessment of Educational Progress (NAEP) has documented for many years the lower reading levels of students from diverse cultures. Also Au (2002) states that at grade twelve, the reading levels of African Americans and Hispanics were the same as Whites at grade eight (p.392). In Texas schools, Hispanics make up a large percentage of the school population. Jimenez (2002) states "Latinos now constitute the largest group of minority students in the United States, calculated at 13.5 percent" (p.1). Jimenez (2002) goes on to state that Latinos experienced a 59 percent growth rate in the 1990's, and the numbers continue to grow to the present time.

Too often the public school's focus has not included various ethnic groups. Instead of embracing different cultures in the schools, teachers and administrators have tried to fit all students into the same cultural mold. By not recognizing differences, educators created cultural divides both in the schools and in the community. The problem of separation is further emphasized in the classrooms when only English language and literature are studied. Emphasizing one culture to the exclusion of other cultures may lead minority students to devalue their own heritages. Further, minority students may not relate to materials that have no reference to their own experiences.

Therefore, it was hypothesized that reading materials about the students' cultures and the cultures of their friends and acquaintances would generate greater interest in reading the materials and result in more time being spent reading.

Methods

Description of the Population

All students in the study attended a high school in a low-income area. It was an older school, which had recently undergone extensive remodeling. The demographics of the communities around the school were approximately ninety-five percent Hispanic. The entire school population was 3,200 students. This population was drawn from apartments, trailer parks, low-income housing, and some new homes. The ethnic breakdown of the school was 83% Hispanic, 10% Anglo, 5% black, and 2% Asian.

Description of the Sample

The participants in this study were special education high school students ages fourteen to twenty. This population of students was chosen due to the fact that that the researcher teaches them on a daily basis. Furthermore, these students are poor to non-readers, and if there were a population in a school that needs to increase time spent reading it would be this population. Thirty-three students were included in this study, divided into two groups. The ages of some of the students in the study were higher than normal for high school students because special needs students are allowed to stay in high school until the year of their 22nd birthday.

The study involved a wide range of reading and ability levels. The range included disabled students who read only a grade or two below grade level to some who read on grade level but could not remember what they have read. To accommodate for the range of abilities, books of different levels were used.

Materials

Two library carts containing thirty to forty books each, and the student time cards were used in this study.

Procedures

The following procedures were used for the study. First, two carts of books were compiled by the researcher and the librarians in the participating high school. Carts were color-coded but had no other identifying characteristics. On one of the carts were books about different cultures, and the other cart contained books having nothing to do with cultures, but of general interest to the students. The level of the books varied to accommodate the different reading levels.

Second, each of the classes was broken into two different groups, A and B. For the first week of the study the students went to the library, and picked books from cart A, that were of a general interest. The times that the students read were recorded on their time cards. This was done to establish the time spent reading before a group was required to read from the cart of cultural-related materials.

Third, after the baseline scores were taken, one group of students began to read from the cart that contained cultural-related books. For the purposes of this study cultural-related books were books that pertained to the way a certain culture lived, famous people of a culture, and where a culture was located. The other group continued to read from the cart that contained books of general interest. General interest materials were non-fiction books. Since the use of a specific person of culture is impossible to omit from certain non-fiction books, the book was considered general interest as long as it did not elaborate on the specific characteristics of the culture. These were the parameters that were suggested by the school librarian to define the differences between the books about culture and general interest. Both groups went to the library and checked out books off the color-coded carts. Students were not informed about the difference between the carts but were assigned a certain color cart for the duration of the study.

Each student was issued color-coded time cards, which matched the color of the book carts from which they selected a book. They were asked to record the amount of time they spend reading outside of school each day. Individual names and book titles were not recorded. Each Monday, the cards from the week before were collected and kept in a folder for each group. New cards were issued for the current week. The project ran for four consecutive weeks. At the end of four weeks, the totals of each group were tabulated and the results graphed.

Data Analysis

For the purposes of this study, a group design approach was used. As assumed by the name, group designs are used when a comparison of groups is needed on some dependent variable. The sets of books and the set of students were the constants in this study. Both groups of students were similar in number and reading abilities. Both library carts contained a similar number and reading levels of materials. The dependent variable was how long each group read. The item that was measured was the time that was spent

reading each week. At the end of each week, the time on the cards for each group was totaled. The hypothesis was tested by making comparisons between the average amount of time students spent reading cultural-based materials and materials of general interest, these comparisons will determine if the hypothesis can be rejected or not. For the purposes of this study a t-Test can be run to measure difference between the groups. The results are shown on bar graphs, each graph has time on the y-axis and the reading material topics or groups on the x-axis. The bars are labeled to show the difference between each group. The actual difference between the groups for each week is noted.
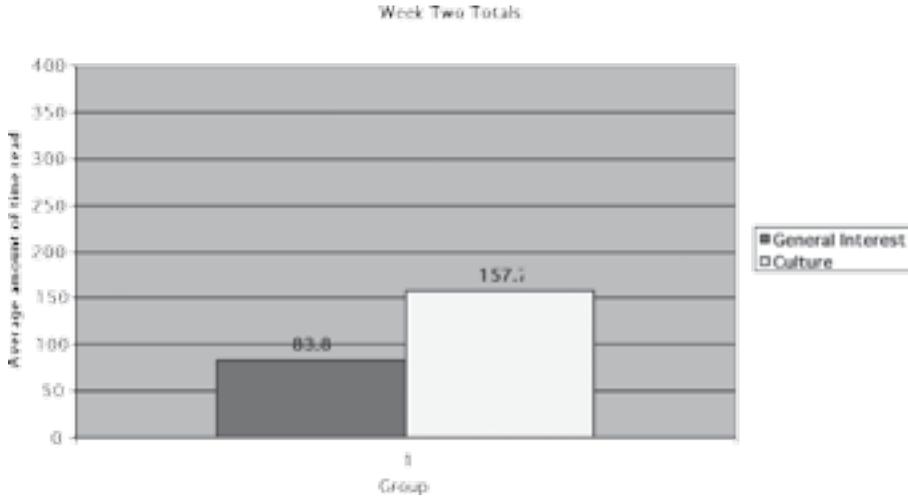
Results

Student data are reported and graphs displaying the times read for each group are presented. At the time the study was started the school changed some of the schedules of the students that were going to participate. In addition to this, some of the participant's parents would not agree to allow their child to participate. Due to these factors the number of participants dropped from 50 to 33, with 17 students reading cultural-related text, and 16 students reading general interest text.
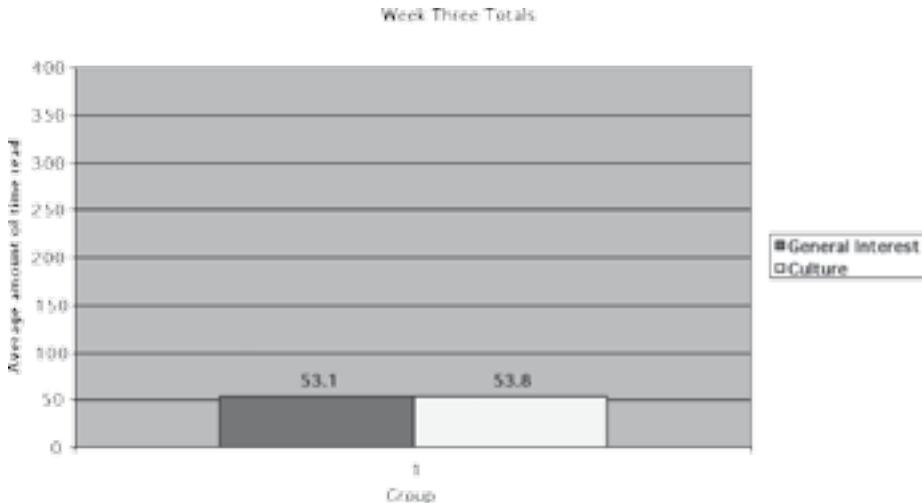
The results for week one as shown in Week One Totals graph, indicate that the average amount of time read by each student in the group reading general interest books was 87.8 minutes. At the same time, the average amount of time read by each student in the group reading about culture was 83.2 minutes. The difference between the two groups was, on average, 4.6 minutes per student – in favor of the general interest-reading group.
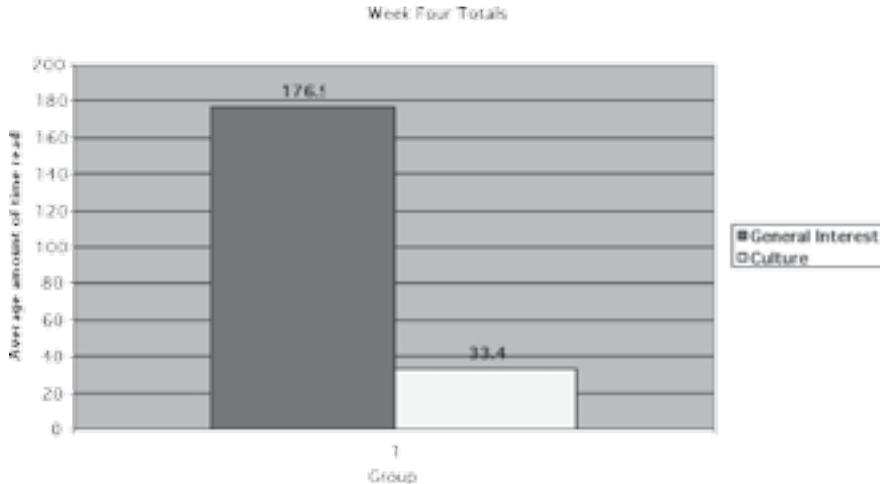

Week One Totals
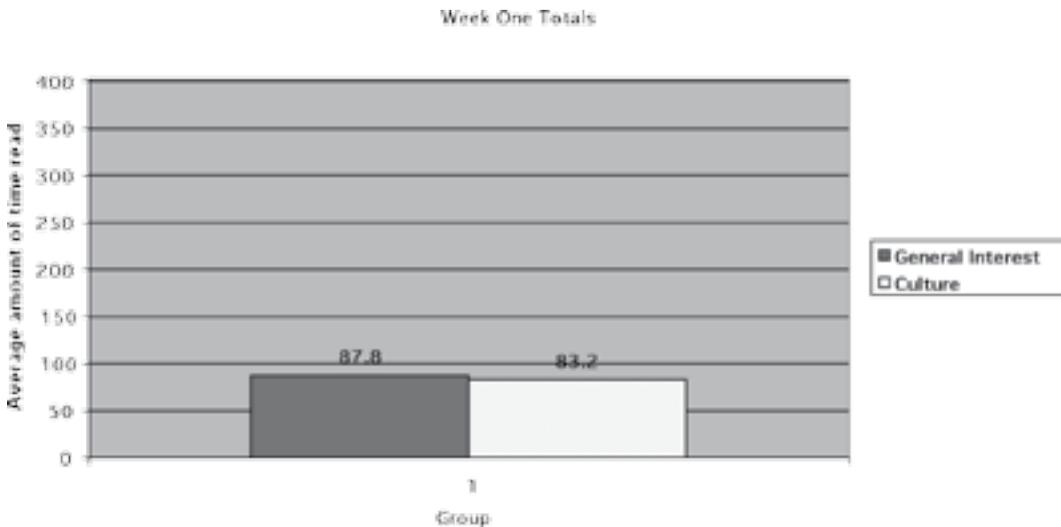
The results for week two as shown in Week Two Totals graph, indicate that the average amount of time read by each student in the group reading general interest books was 83.8 minutes. At the same time, the average amount of time read by each student in the group reading about culture was 157.7 minutes. The difference between the two groups was, on average, 73.9 minutes per student – in favor of the cultural-interest group.


The results for week three as shown in Week Three Totals graph, indicate that the average amount of time read by each student in the group reading general interest books was 53.1 minutes. At the same time, the average amount of time read by each student in the group reading about culture was 53.8 minutes. The difference between the two groups was, on average, .7 minutes per student – in favor of the cultural-interest group.

The results of week four as shown in Week Four Totals graph, indicate that the average amount of time read by each student in the group reading general interest books was 176.9 minutes. At the same time, the average amount of time read by each student in the group reading about culture was 33.4 minutes. The difference between the two groups was, on average, 143.5 minutes per student – in favor of the

The results for the entire four-week span as shown in Four Week Totals graph, indicate that the average amount of time read by each student in the group reading general interest books was 401.6 minutes. At the same time, the average amount of time read by each student in the group reading about culture was 328.1 minutes. The difference between the two groups was, on average, 73.5 minutes per student – in favor of the general interest group. Since the research hypothesis was that the Culture Reading Group would read more than the General Reading Group and the reverse occurred, there was no need to test the null hypothesis. The research hypothesis is rejected due to the result that the General Reading Group read more than the Culture Reading Group.
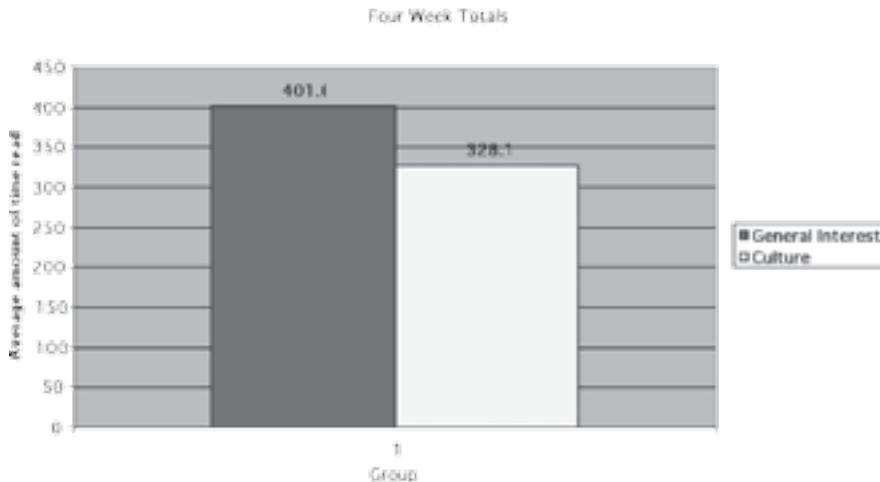
Conclusions

The purpose of this study was to show if reading a book that pertained to a culture caused the reader to read for a longer duration. As the information shows, on average, the general interest group read the most the first week. However, in the second and third weeks the cultural-interest group read the most. In the forth and final week, the group reading general interest read substantially more, allowing them to obtain a higher average. In talking to some of the students in this group, that decrease in time was due to three things, boredom in reading, an unwillingness to read generally, and a lack of desire to read about cultures that did not pertain to theirs. During that same time the general interest group continued to read at a more constant rate, and therefore ended up reading in total for a longer period of time.

Implications for Classroom Practice

This study could be useful because the teacher could allow students to read general interest materials to build reading skills and increase the amount of reading that occurs for the students. The teacher could also have students read about other cultures to gain insight, although the students might read less, they would still be reading and refining their reading skills. This study also shows the need for more and better reading materials to stimulate students.

Recommendations for Further Studies

This study was done using a collection of books that pertained to different cultures from around the world. Further studies can be taken using one specific culture that is the same or in the same region of the world as the majority of the students being used. Doing this would allow the students who are reading about culture to maintain interest for a longer period of time, decreasing or possibly eliminating the drop in time due to lack of interest in other cultures.

This study could also be conducted using more, and better quality reading materials. Using better materials could entice the subjects to read more, and by doing this gain better reading skills.

Another study could be conducted using low-level readers, not resource students. By doing this, one eliminates the need to categorize the books into grade levels for the students. This might allow the students a wider range of books to choose from.

Training students on how to complete time cards, restricting reading times to only during the school day, and spot checking the time cards for accuracy are additional ways that you could modify this study in the future.

References

Au, Kathryn H, (2002) Multicultural Factors and the Effective Instruction of Students of Diverse Backgrounds. What Research Has Said About Reading Instruction?

Farstrup, Alan E., & Samuels, S. Jay (Ed.) Third Edition. Newark: International Reading Association, 392-413. Intercultural Development Research Association. 1996. Retrieved September 23, 2004,   http://www.idra.org/Research/Literacy. htm.

Jimenez, R.T. (2002, February). Fostering the Literacy Development of Latino Students. Focus in Exceptional Children, 34(6), 1-10.

Kelder, Richard. (1998). Literacy, The Self, and Culture: an Enquiry. Retrieved June 2002 from ERIC ED 426 592.

Willis, Arlette I. (2000). Addressing Literacy Needs in Culturally and Linguistically Diverse Classrooms. Retrieved September 25, 2004, from http://www.ncrel.org.