DOCUMENT RESUME

ED 383 002 CS 214 903

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TITLE	The Effect of Music on Children's Writing Content.
PUB DATE	[95]
NOTE	29p.
PUB TYPE	Reports - Research/Technical (143)
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	*Childrens Writing; Grade 2; Instructional Effectiveness; *Music; Primary Education; Writing Evaluation; Writing Research
IDENTIFIERS	*Background Music; Charlottesville City School District VA; *Writing Contents

ABSTRACT

A study explored the effect of different kinds of music on children's writing content. Nineteen students from a second grade class in Charlottesville, Virginia, participated in 10 15-minute writing sessions, accompanied in each session by one type of background music (classical, jazz, popular, or country) or by silence. All writing was analyzed for tone, consistency, and number of words. Results showed that: (1) students wrote more words under the classical music condition; (2) there were fewer inconsistent writings when listening to jazz; (3) negative writings were greater in number for all music types than for no music condition; and (4) Top-40 music had a significant negative effect on students' writing, perhaps attributable to students' familiarity with it. (Contains four appendixes with tables of data, and 16 references.) (SR)

The Effect of Music on Children's Writing Content

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Running Head: THE EFFECT OF MUSIC ON CHILDREN

ABSTRACT

Most research on the effects of music in the classroom concentrates on the relationship between music and reading. This project explores music in the classroom from a different angle: the affect of music on children's writing content is scrutinized in this study.

The study sample consisted of nineteen students from a second grade class in the Charlottesville City School System. The students provided writing samples on ten separate occasions. Various background music was played during the writing periods, with no music being played in baseline conditions.

Through the use of three criteria, the results indicate that specific types of music had significant effects with regard to word count, consistency, and tone.

LITERATURE REVIEW

It has long been assumed that exposure to background noise, music in particular, affects the reading and writing skills of students. This being recognized, researchers from numerous fields have conducted multiple studies to determine the affects of specific sounds and types of music on students' reading and writing abilities. Their studies have produced varied results with little congruity.

The vast majority of early research revealed that a negative or non relationship existed between background music and reading (Ebisutani et al., 1991). As early as the 1930s, researchers were testing the relationship between music and reading comprehension. In one study, a group of college freshman were exposed to lively classical music while reading an unfamiliar text. The control group read in silence. Following the reading, the students were asked to answer 60 true-false questions based on the material they had just read. The study concluded that college student's exposed to music while reading for comprehension had poorer retention than did students in the control group. Further, the research indicated that background music significantly impaired the comprehension abilities of the students performing on higher intellectual levels (Fendrick, 1937).

In a similar study, it was discovered that exposure to certain types of music had a negative effect on reading comprehension while other

types had no effect (Henderson et al., 1945). In this study, fifty freshmen women were divided into three groups. All three groups were given the same passage to read for comprehension while each group was exposed to a different musical situation - classical, popular or no music. The classical music produced no evidence of distraction upon students' reading comprehension. However, the group of women exposed to popular music demonstrated significantly lower comprehension rates than the control group. The researchers surmised that the students may have been listening more intensely to the familiar lyrics and melodies of the popular music.

In another interesting study, dormitories on a college campus were wired for audio sound and the students within were exposed to various types of sounds while reading unfamiliar psychology texts. The purpose of the study was to determine student attitudes about the quality of the passage, the author and the text. The dormitory was stimulated by the following types of sounds on multiple occasions: 1) dormitory noise, 2) rock and roll music, 3) television, 4) bird sounds, and 5) silence. The results of this study concluded that television and rock and roll music produced no significant affect on students' attitudes towards the reading.

Not all of the studies have determined that music is a negative or non factor in its affect on reading. An extensive study involving 283 college freshman attempted to characterize the effects of four types of

music on reading speed and comprehension. Exposure to classical, popular, semi-classical and jazz, while reading an unfamiliar text, produced one major finding - the jazz group read significantly faster than the others. Contradicting previous studies, the results also demonstrated that the affect of background music on reading comprehension is in no way related to the intelligence level of the student (Freeburn & Fleisher, 1952). In a separate study, research demonstrated that being exposed to music helps develop auditory and visual skills needed for reading. This was found to be particularly true with kindergarten and first grade students (Lloyd, 1978). Other studies have looked into the motivational power of music on reading. It has been found that using music to teach reading motivates and increases the reading ability of students (O'Bruba, 1987).

In our study, each of the writing sessions were preceded by ten minutes of exercise. This served two purposes. First, the exercise acted as a buffer between the routine of the class and the actual writing exercise. Second, it has been found that moving or exercising has a positive impact on mental functioning by sparking a feeling of excitement and increases concept development (Cohen, 1974). One other researcher explained the usefulness of physical exercise prior to writing activities by saying that conventional prewriting methods stymie student creativeness and do not encourage critical thinking (Beers, 1987).

Far fewer studies have been conducted on the affects of music on writing than on reading. It is believed that music increases students' mental imagery and should be used in conjunction with creative writing assignments (Cardelli, 1979). One researcher hypothesized that music creates an artificial environment that can stimulate creative expression (Donlan, 1974). In one experiment, two high school classes were taught the fundamentals of creative writing. One class received visual (art) and auditory (music) stimuli heavily incorporated into their curriculum; the control group received neither. Though the English class mean grade point average for the control group was higher, the quality of their final creative writing was judged to be significantly inferior to that of the test group (Ball & Stafford, 1986).

In a study that closely mirrors our own, fifty high school students were asked to spontaneously write while listening to one of four classifications of music: familiar classical, unfamiliar classical, familiar popular rock, and unfamiliar popular rock. The study found that spontaneously writing to music resulted in a majority of papers without a consistent topic. Although the music appeared to affect content, style and genre for a significant number of students, a recurring theme ran through all four of their writings (Donlan, 1975).

Donlan (1976) observed that the quality and quantity of students' writing was affected by music as a stimulus. He noted two types of music

that had an inhibiting effect on student writing. In his study, vocal and unfamiliar music actually reduced the quality and quantity of the writings produced. He further surmised that students' attitudes about writing were less positive when the music was unfamiliar. Donlan (1976) conducted a follow-up to his previous study in which fifty high school students were asked to spontaneously write to four types of unfamiliar vocal music. His findings indicated that students wrote less to classical than to popular unfamiliar vocal music. However, the study also found that students' writing quality was higher when writing to unfamiliar popular music as opposed to unfamiliar classical music.

Perhaps the most difficult aspect of these types of studies is determining a methodology and means of assessing student writing. For one study, three individuals - a writing teacher, a member of the community and an English teacher - were simply asked to independently read and assign a point value to students' writings based on their perceptions about the writing quality and content (Ball & Stafford, 1986). Far more sophisticated scoring methodologies have been devised to assess student writing.

Janet Black (1993) developed an assessment tool to analyze tenth grade students' writings, comprised of five equally weighted criteria. Those criteria are as follows: 1) Focus: Details are clearly related to a topic; 2) Verbs: Expressive and varied; 3) Adjectives and adverbs:

Colorful and precise; 4) Figures of speech: Similes and metaphors used effectively; and 5) Appeal to senses: Details explicitly appeal to several of the five senses.

A recent study that analyzed the writings of disadvantaged fifth-grade students in Chicago used a complex system to assess student writing. The fifth-grade samples were judged on both structural and thinking components. For structure, the use of organization, supporting details, conventions, and number of words were assessed. For thinking indications of listing information, describing characteristics, expressing outlook, expressing concern, coherence, perception of interpretation, and abstract thinking were assessed (Mavrogenes & Bezruczko, 1994).

In his study of spontaneous writing, Donlan (1975) included the concept of "consistency" in his evaluation tool. He analyzed whether individual sentences varied or remained keyed on a fixed topic. This criteria is particularly applicable to the often inconsistent and seemingly random writings that second graders produce.

Donlan incorporated the concept of quality into his assessment tool. Using a simple (1 & 0) binary code, he compared student writings and determined each student's best and worst pieces. He also used a word count as a means of measuring the affect of music on writing volume.

Music does affect student reading and writing performance.

INTRODUCTION

There are numerous factors at play in every classroom. From the color of the paint on the walls to the attitude that a specific child may have brought from home, a classroom is simply a reflection of the thousands of factors present on any given day. Many of these factors are uncontrollable; however, quite a few are within the control of the teacher to modify. One modification that is well within the teacher's power to make is the introduction of auditory stimuli into the classroom; more specifically, the integration of various musical genres into the writing curriculum.

While research suggests music can affect student reading and writing, there is little consistency in the research to firmly identify which types of music produce positive affects on student writing. Our research will shed some light on this vague field of study.

In this study, we want to discover if any direct correlations exist between musical type and student writing. In particular, we are interested in determining the affects of jazz, classical, popular and country music on the writings of second grade students. We chose second graders as our test group because of their lack of familiarity with the structural components of writing and their eagerness to explore new ideas.

In regard to the writing, an assessment tool was designed to

analyze writing length, consistency and tone of second grade students.

On February 21,1995, the classroom teacher of students in our study, and our clinical instructor for this project, Mrs. Phyllis Starks, passed away. This was a very sad time in both our lives as well as in the lives of Mrs. Stark's students. The impact of Mrs. Stark's death on this study can not be overlooked and it is our belief that it contributed greatly to the significant decline in the average length of student writing toward the later end of the study (see Appendix D).

METHODOLOGY

SAMPLE:

Nineteen students from Mrs. Stark's second grade class at Clark Elementary School in Charlottesville,VA participated in this project. The students range in age from seven to nine years old. Eleven of the students in the class are male, eight are female. Of the nineteen students, twelve are African American, six are Caucasian, and one child has a father who is African American and a mother who is Caucasian.

The students range in intellectual ability from those who are on grade level to those who are at the ability level of a first grade child. No student in the class is identified as gifted. One child has been retained from the previous year.

All of the students in the class are from a low socioeconomic background. Seventeen of the nineteen students receive full aid for the school's free lunch program. The other two students in the class receive partial aid for the lunch program. Many of the students in the class are raised by a single parent although the exact number can not be stated because the student's family situations are continually changing.

PROCEDURE:

The study consisted of ten individual sessions spanning a five week period. The sessions were held on the same two days each week

and at the same time during the day. For purposes of explaining the methodology of our study, it is helpful to analyze the two distinct components of each session.

I. Exercise:

After making our initial greetings at the beginning of each of the ten sessions, the entire class was asked to join us in a cleared portion of the room for exercise. Participation was made completely voluntary - which still resulted in nearly 100% participation. The students were first led through a series of stretches, followed by sit-ups, push-ups, jumping jacks and, finally, jogging in place. The total time allotted for the exercise period was seven minutes, not including a brief cool down period and time for the students to return to their seats. No music was played during the exercise period and the students were advised that they could stop at any point if they felt they could not continue physically.

II. Writing:

Following the exercise, the students retook their seats and were given a series of instructions and reassurances. These were: 1) Each student is expected to write for the entire 15 minute period; 2) No communication between students is permissible during the writing period; 3) Raise your hand if you need another sheet of paper, and; 4) All

writing that is produced will be kept completely confidential and no one, except the researchers, will ever see the finished product. After the directions were explained, each student was given a sheet of writing paper and asked to take out a pencil. A timer was then set and the students were asked to write for fifteen minutes.

During each of the fifteen minute writings, the students were exposed to one type of music (classical, jazz, popular or country) or they wrote in silence. The first session provided an initial baseline for future writings, as this one was done without music. Session numbers two through five involved classical, popular, jazz and country respectively. Sessions six through nine were a repeat of sessions two through five and session ten provided a second "no music" baseline. For all eight writing sessions involving music, the music was played at a constant level.

At the conclusion of each writing session, the students were given the opportunity to participate in a 5 minute "quick draw" period to illustrate their writings. Students who chose not to illustrate were asked to read silently for the five minutes.

The writings were collected and filed at the end of each session without being assessed. At the conclusion of all ten sessions, each writing was analyzed for tone, consistency and number of words. Tone was defined on three levels: positive, negative or ambivalent. Consistency was defined as of or pertaining to the same general theme

or topic. The writings had to contain three or more sentences on the same general topic to be identified as consistent. Further, if the students writing contained less than three sentences, all of the sentences had to concur to be identified as consistent. The findings were noted and recorded and subsequently scrutinized for significant differences.

RESULTS

Three assessment tools were used for this study: word count, consistency, and tone. The use of word count as an assessment tool was taken from a study completed by Nancy Mavrogenes (1994). In addition, Donlan (1975) put forth the use of consistency in analyzing students' writings. Finally, the use of tone as an assessment tool was a self-created measure. The results indicate areas of statistical significance regarding each of these three tools.

A one tailed t-test was used for all statistical measures in this study. Each measure was examined at the .95 confidence interval. For all of the t-tests, the degrees of freedom was 29 and the t-score at the .95 confidence interval for v=29 is $\pm$1.699.

For word count (See Appendix A), under the no music condition, students wrote an average of 36.5 words in their writing sessions. In comparing the four music types to the no music condition, classical music proved to be statistically significant. Students wrote an average of 45.6 words in their writing sessions under the classical music condition. The t-score for classical music is 1.791 which is outside of the .95 confidence interval t-score $\pm$1.699. There are no other statistically significant findings for the other music types regarding word count.

The other two criteria for assessment of the children's writings were consistency and tone. We defined consistency as "of or pertaining

to the same general theme or topic". We viewed consistency as an attention to task measure. The more consistent the students were in their writings, the more they were remaining on task. With regard to tone, we created three categories: positive, negative, and ambivalent. The reasoning behind the creation of these categories is that second grade students have a tendency to write "I love" and "I like" statements in their writings. Negative and ambivalent writings indicate a trend away from these type of statements. Furthermore, ambivalent writings indicate a wide range of topics employed by the students which demonstrates some variety in the children's writings.

For consistency (See Appendix B), under the no music condition, of a total of thirty-one writings received, eight were defined as inconsistent. In comparing the four music types to the no music condition, jazz and top 40 music proved to be statistically significant. Students wrote a total of four inconsistent writings under the jazz music condition. The t-score for jazz music is -2.00 which is outside of the .95 confidence interval t-score $\pm$1.699. Of thirty-two writings collected, under the top 40 music condition, twelve were identified as inconsistent . The t-score for top 40 music is 2.00 which is outside of the .95 confidence interval t-score $\pm$1.699. Country and classical music did not provide significant findings in terms of consistency.

For tone (See Appendix C), under the no music condition, there

was a total of three ambivalent student writings out of a sample of thirty-one. In comparing the four music types to the no music condition, jazz proved to be statistically significant. Students wrote a total of eight ambivalent writings under the jazz music condition. The t-score for jazz music is 2.193 which is outside the .95 confidence interval t-score $\pm$1.699. There are no other statistically significant findings regarding ambivalent stories for the other music types regarding ambivalent stories.

Negative student writings were also examined under the "tone" assessment tool. In comparison to the no music condition, negative writings were greater in number for all music types. Still, the differences were not large enough to be statistically significant.

DISCUSSION

The students in Mrs. Stark's class often receive between fifteen minutes to one half hour of writing time every morning. These writing projects are coordinated by the school's resource teacher. In addition to this writing time, the students keep journals in which they are to write at the conclusion of each school day. Thus the students in Mrs. Stark's class had done some extensive writing prior to this project.

The ten writing sessions were consistently conducted each day. Initial exercise activities began at the conclusion of the students' reading time, and writing sessions ended ten minutes before lunch. Therefore, writing time was used as a control for this project.

Results indicate that when the average number of words per selection, consistency, and tone are used to analyze children's writings, jazz and classical music have a significant positive effect when played in the background during the students' writing time. Top 40 music was found to have a significant negative effect when played in the background during the students' writing time. This negative effect may be contributed, in part, to the children's familiarity with top 40 music .

The students in this study were most familiar with the top 40 music in comparison to the other music types which were played. When top 40 music was played during the students' writing time, the children began to dance and sing at their seats. Some students held contests to see who

knew the most words to the top 40 music. The atmosphere of the classroom could best be described as "festive" .

Although the students needed some time to settle down after being exposed to every music type, the students needed much more time to settle down when the top 40 music was played. The students adjusted very quickly when classical, country, or jazz music was played in the background during their writing time. Many students asked questions regarding these music types at the conclusion of a writing session. Not a single student in the class was familiar with any of classical, country, or jazz music which was played in this study.

As the criteria for measuring the children's writing, we chose the average number of words per selection, consistency, and tone. Many studies have used parts of speech as a measure of the children's writing. For instance, the number of adjectives in a writing sample could be used as a measure. Parts of speech were not employed as a measure in this study because these second grade children have not been instructed on their proper use. Thus we used the average number of words per writing as our quantitative measure.

A total of ten writing sessions were conducted with nineteen students. Each student listened to the four music type on two occasions (eight sessions total), and no music was played on two additional instances. Thus the study was limited to these ten occasions. Although

our results indicate a statistical significance, they should be regarded with some caution due to the relatively small sample size and limited time of duration.

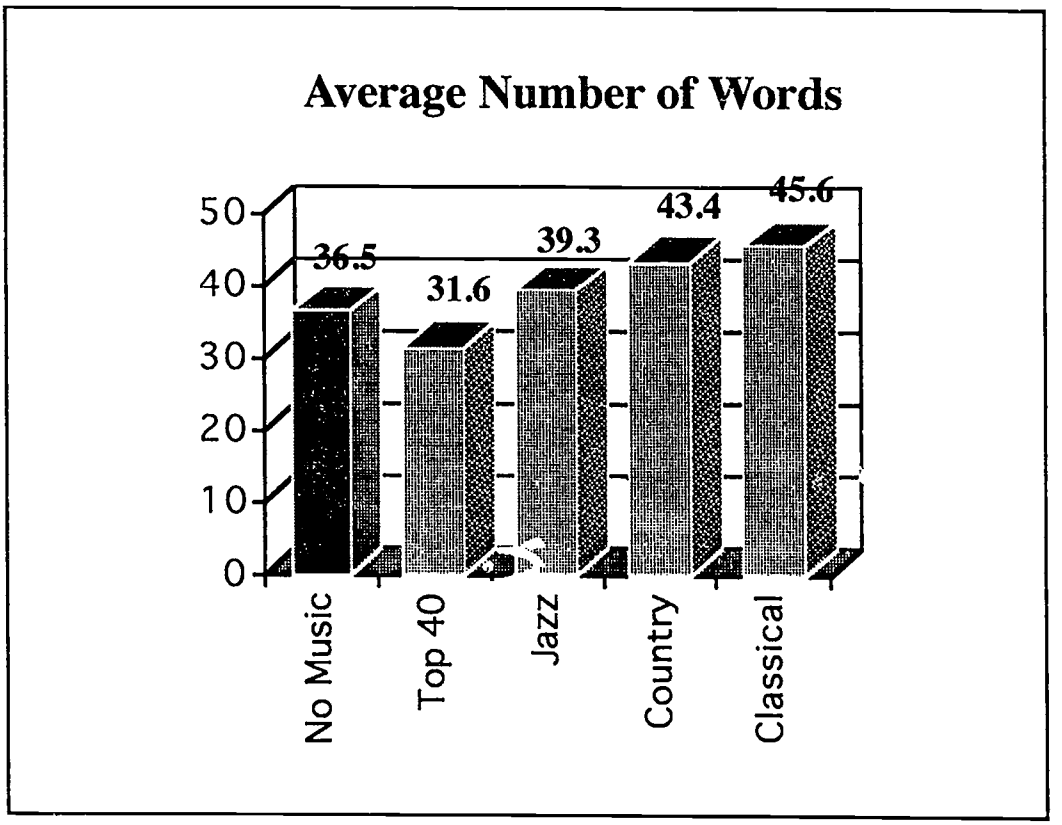
The unfortunate and unexpected death of the students' teacher most likely affected the students' writing selections. Five writing sessions were conducted prior to Mrs. Stark's death. The final five writing sessions, beginning with the second classical music session (See Appendix D), were conducted after her death. On the second classical music writing occasion, some students wrote about Mrs. Stark's death. The students were expressing their feelings through their writings. Over the last four writing sessions, the students seemed to lack motivation to write. This can be seen in the smaller average number of word totals for their writings. As moderators for this project , we had to spend more time than usual redirecting the students' off-task behavior over these four sessions. The students were experiencing a difficult time, and their lack of motivation was seen in all subject areas.

During the final writing session, no background music was played. Cries of, "Where's the music?" could be heard throughout the classroom. The children genuinely liked listening to the music. Not only did the children enjoy the music, they also proved to be more productive workers when classical and jazz music was played in the classroom.
Teachers may consider looking for devices which prove to be productive

for the children and which children enjoy. In this study, classical and jazz music proved to be such devices. Music can be used in the classroom in almost all content areas. It can be incorporated in activities involving math, social studies, science, and health in addition to language arts. Playing music in one's classroom may provide a more productive and enjoyable atmosphere for all.

Appendix A

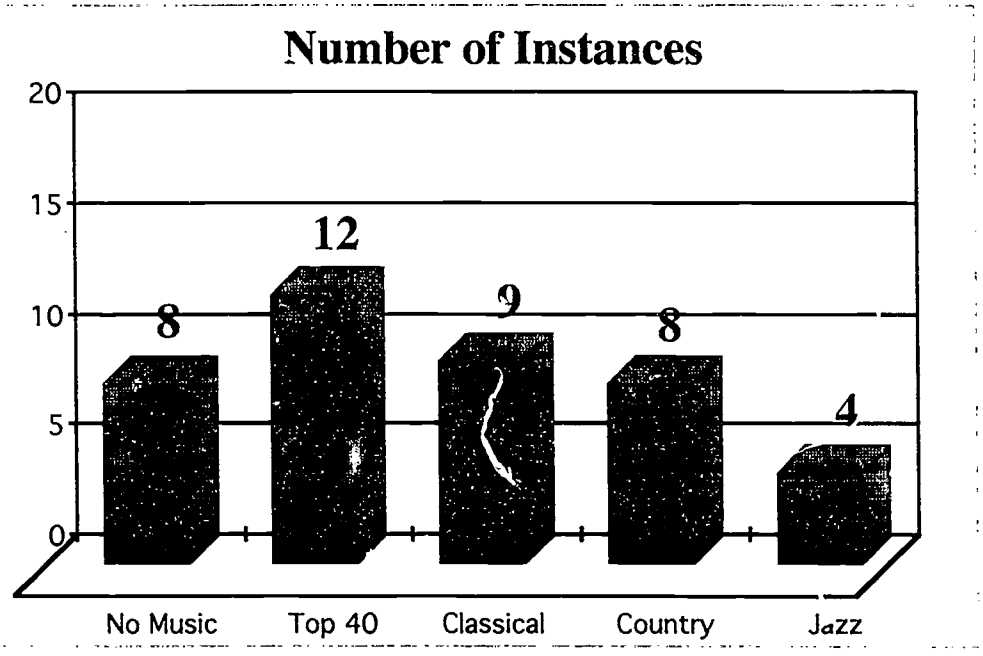
Average Number of Words in 30-35 Samples Per Music Type



Appendix B

Results - Consistency

Inconsistent student writing by music type

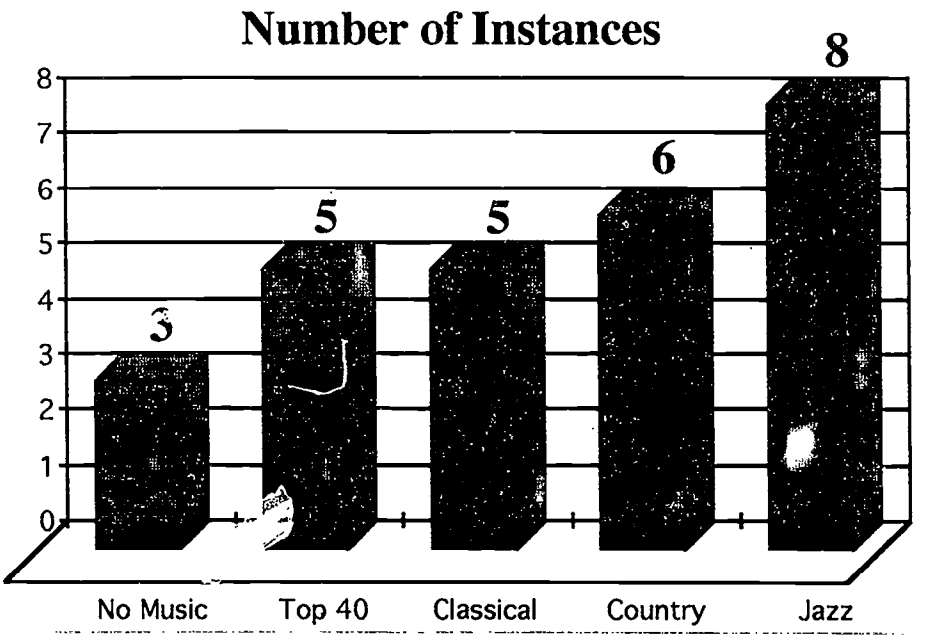


- **Jazz and Top 40 were statistically significant**
  - **Jazz** - More Consistent
  - **Top 40** - Less Consistent

Appendix C

Results - Tone

Ambivalent student writing by music type

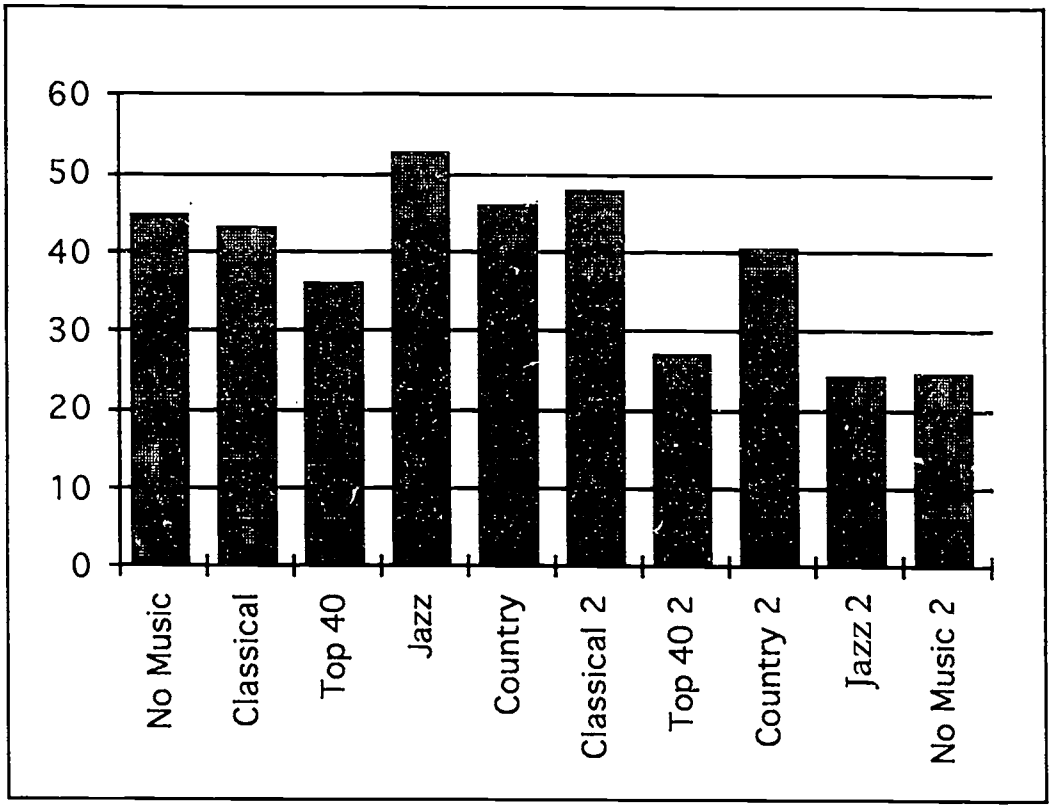


Negative Stories - greater in number for all music types than no music (not statistically significant)

Ambivalent Stories - statistically significant for jazz

Appendix D

Average Number of Words Per Writing 19 Students in 10 Writings



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