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AUTHOR Medina, Suzanne L.

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ABSTRACT

A study investigated the effectiveness of music and use of story illustrations on the English vocabulary acquisition of children. Subjects were 48 second-graders of limited English proficiency, divided into four groups. One group heard a story in its sung version, and another heard the oral version only. A third group heard the music and simultaneously viewed pictures of target vocabulary words. The fourth group heard the oral version and viewed the pictures. Results of pre- and posttests indicate no statistically significant differences between groups having music and not having music, between having illustrations and not having them, or for the interaction of the two variables. However, descriptive differences were found. Vocabulary gain scores were consistently higher for the groups in which either music or illustrations were used, and highest for the group in which both were used. Implications for the use of music in the second language classroom are discussed, and further research is recommended. A 40-item bibliography is included. (MSE)

THE EFFECTS OF MUSIC UPON SECOND LANGUAGE VOCABULARY ACQUISITION

Suzanne L. Medina, Ph.D.
Graduate Education Department
California State University
Dominguez Hills

1637 Westmont Drive
San Pedro, CA 90732

(310) 514-2944 (H)
(310) 516-3925 (W)

ABSTRACT

Can English be acquired through a musical medium? The positive effects of music upon rote memorization are well documented, yet empirical support for music as a vehicle for second language acquisition is lacking.

A recent study investigated the effects of music upon the acquisition of English vocabulary in a group of 48 second grade limited-English-proficient children. A Pretest-Posttest Control Group Design with Matching and Repeated measures was selected for this investigation. The main independent variable, medium (Music/No-Music) was crossed with a second variable, extralinguistic support (Illustrations/No-Illustrations), producing four treatment groups. No-Music group subjects listened to an oral story while Music subjects heard a sung version of the same story. Illustration group subjects were shown pictures of target vocabulary words while listening to the story. No-Illustration subjects listened to the story without the benefit of pictures.

As a result of performing two-way analyses of variance, the null hypotheses were accepted. Consequently, these findings support past positive claims: A musical medium promotes language acquisition to the same extent as a non-musical medium. Stated differently, the same amount of vocabulary is acquired from listening to a song as listening to a story. Definite patterns in the data were also observed: Sample mean gain scores were consistently higher for Music and Illustration treatments. The combination of Music and Illustrations resulted in the largest vocabulary acquisition gains. Further investigation is needed in order to determine whether a musical medium may promote even greater vocabulary acquisition than a non-musical medium.

THE EFFECTS OF MUSIC UPON SECOND LANGUAGE VOCABULARY ACQUISITION

"THE EFFECTS OF MUSIC UPON SECOND LANGUAGE VOCABULARY ACQUISITION"

It is currently a common practice to use songs in the classroom to support second language acquisition. The literature abounds with the positive statements regarding the efficacy of music as a vehicle for first and second language acquisition. (Jalongo and Bromley, 1984, McCarthey, 1985; Martin, 1983, Mitchell, 1983, Jolly, 1975). Although this phenomenon has not been well researched or documented, empirical support can be found in the research on second language acquisition and psychology.

Second Language Research on Incidental Vocabulary Acquisition

In recent years, second language researchers have concerned themselves with the acquisition of vocabulary. Within this body, researchers have distinguished between vocabulary which is acquired incidentally as opposed to intentionally. According to Krashen (1989), there is substantial evidence that vocabulary is acquired incidentally by reading or listening to oral stories. (Cohen, 1968, Elley, 1989; and Eller, Pappa, and Brown, 1988). During the preschool years, the child relies exclusively upon the oral language he/she listens to in order to acquire language. As Nagy and Herman (1987) pointed out, this acquisition of language takes place before the child can read and without explicit instruction of any kind. Furthermore, even after the child begins to attend school, he/she continues to acquire vocabulary which has not been learned formally. Of the 3,000 words which the average child acquires each year, only a portion are learned as a result of the instruction received in school. Thus, Nagy and Herman have argued that the remainder of these vocabulary must be learned incidentally from a variety of sources including, but not limited to such sources as television, parents, etc. Similarly, songs may also provide a source of incidental acquisition of vocabulary.

The Input Hypothesis: Explaining the Incidental Acquisition of Vocabulary Through Stories

The incidental acquisition of vocabulary has been explained by Krashen (1985) within the context and framework of his "Input Hypothesis." According to this hypothesis, new, unfamiliar vocabulary is acquired when its significance is made clear to the learner. Meaning is conveyed by providing extralinguistic support such as illustrations, actions, photos, and realia. This in turn results in what Krashen refers to as "comprehensible input" since the linguistic input is made comprehensible to the second language learner. Krashen further posits that the amount of comprehensible input is proportionate with the amount of vocabulary acquired. Thus, according to Krashen (1989), vocabulary is incidentally acquired through stories because (1) familiar vocabulary and syntax contained in the stories provide meaning to less familiar vocabulary, and (2) picture illustrations clarify the meaning of unfamiliar words. There is evidence that picture illustrations succeed at supporting the reading process by clarifying the meaning of incoming verbal information (Hudson, 1982; Omaggio, 1979; Mueller, 1980; Bradsford and Johnson, 1972). In short, meaning is critical to the incidental acquisition of second language vocabulary.

Apart from oral stories, there may be other means of bringing about the incidental acquisition of vocabulary: songs. The song shares all of the same elements of an oral story, yet the vehicle through which the song is conveyed is musical rather than spoken. What distinguishes the song from an oral story is the addition of the musical vehicle. Furthermore, if the oral story and song are identical, with the exception of their vehicle, then it follows that a song's vocabulary may be acquired by simultaneously providing extralinguistic support (e.g., pictures, actions).

Psychological Research on Music and Verbal Learning

Although the effects of music upon second language acquisition have not been thoroughly investigated, there is empirical support for music as an aid to other forms of verbal learning. In the psychological research, music and its subcomponent, rhythm, have been shown to benefit both the rote memorization process. When various types of verbal information (e.g., multiplication tables, spelling lists) have been presented simultaneously with music, memorization has been enhanced (Gfeller, 1983; Schuster and Mouzon, 1982). Research on the effectiveness of rhythm, a subcomponent of music, has been equally favorable (Staples, 1968; Ryan, 1969; Weener, 1971; Shepard and Ascher, 1972; Milman, 1974). The literature also indicates that the retentive effects of rhythm can be maximized when the targeted verbal information carries meaning. In several studies, a rhythmic presentation benefitted memorization when the items were both meaningful and meaningless (i.e., nonsense syllables). Yet, the impact of rhythm was greatest when the verbal information was more meaningful (Weener, 1971; Shepard and Ascher, 1971; Glazner, 1976). There is additional evidence that music is not limited to benefiting the rote memorization process. Music has proven beneficial when the objective has been to retain the meaning of verbal information as well (Isern, 1958; Bottarri and Evans, 1982). This, in fact is the case when vocabulary is acquired: It is the word's semantic properties which must be retained in memory. Furthermore, music does not appear to prevent or be in competition with verbal learning. Instead, some studies point to the bond which exists between the two (Deutch, 1972; Palermo, 1978; Serafina, Crowder, Repp, 1984; Borchgrevink, 1982).

The psychological literature offers evidence of the positive relationship between music and verbal learning. Yet, can music promote second language acquisition as well? Can music, when coupled with the targeted second language, promote language acquisition to the same extent as other traditional and non-musical approaches (e.g., oral stories)? To date, this has not been tested.

Still a second question is related to the first. The psychological literature points to the interactive relationship between music and meaning. That is, although meaningful information is memorized with greater success than less meaningful information, retention is even greater when more meaningful verbal information is learned with music. As has been pointed out in the second language research, meaning also occupies a significant role in the acquisition of a second language. Krashen as demonstrated that language acquisition results when the target language item is heavily laden with meaning. This is made possible by providing extralinguistic support such as actions, etc. which make linguistic input comprehensible. Given this, might the same interactive relationship between music and meaning prove beneficial for language acquisition as it has for rote memorization? Music, particularly if accompanied by extralinguistic support (e.g., illustrations), may be a viable vehicle for language acquisition. It is timely that this issue be empirically tested.

The purpose of this investigation was to determine (1) if music would bring about language acquisition to the same extent as other more traditional non-musical approaches (e.g., oral stories); (2) if illustrations impact vocabulary acquisition; and (3) if there is a strong interactive relationship between the Instructional Medium (Music/No Music) and Extralinguistic Support (Illustrations/No Illustrations).

In order to answer these questions the dependent variable of vocabulary acquisition was investigated under four treatment conditions which resulted from crossing two independent variables: (1) Instructional Medium (Music/No Music) and (2) Extralinguistic Support (Illustrations/No Illustrations). This study was structured using a Control Group Pretest-Posttest Design with matching and repeated measures, a variation of the randomized design (Issac and Michael, 1989).

METHOD

Description and Selection of Subjects

Subjects participating in this study consisted of 48 second grade Spanish-speaking limited English proficient students. All students were enrolled in an elementary school belonging to the Los Angeles Unified School District during the 1990-91 academic year. The elementary school was located in a suburb of Los Angeles which was largely low-income and Hispanic. Subjects were selected from a pool of two second grade limited English-speaking classes.

Of the original 52 students who participated in the study, 4 were dropped due to a number of reasons (e.g., transfer to another school, lack of parental support forms, absence on testing day).

Materials and Apparatus

Commercially produced tape cassettes with accompanying big book illustrations were used for this investigation. These materials, contained a sung and spoken version of A Surprise for Benjamin Bear by J. Nelson (1989). This story was selected because it conformed to a number of criteria. At its most basic level, the story used for this study had to (1) be illustrated and (2) have tape recorded sung and spoken versions. This would allow it to be used in any one of the following four treatments:

1. No Music-Illustrations (story spoken with illustrations)
2. No Music-No Illustrations (story spoken without illustrations)
3. Music-Illustrations (story sung with illustrations)
4. Music-No Illustrations (story sung without illustrations)

Apart from these were other criteria which were met. The story illustrations were large, colorful, and clearly illustrated key vocabulary and concepts in the story. the story had content and vocabulary appropriate for second grade children and contained at least 20 vocabulary words which would be unfamiliar to some of the children. The voices heard on the tapes were clear, comprehensible, and equally appealing. The tempo of the sung version did not prevent the comprehension of words. The lyrics of the sung and spoken versions were identical. The melody used in

the sung version was simple, uncomplicated, and pleasing to the ear.

Testing Instrument

The testing instrument was devised by the investigator for the purpose of this study. This instrument was patterned after that which was developed and used by Elley (1989) to measure the amount of vocabulary acquired from listening to oral stories.

The vocabulary acquisition measurement instrument used for pretests and posttests consisted of a 20-item multiple-choice paper and pencil test. This test was developed so that it could be administered to large groups of students. Since the subjects participating in this study were exposed to oral language, as they were in Elley's study, written words did not appear on the exam. Instead, the stem of each test item consisted of a target word which was orally presented. Multiple choice options consisted of four illustrations. Thus, in the test instrument, the children heard the practice word book pronounced three times by the investigator. They were then asked to circle the illustration which they believed best matched this spoken word. The target words used in this testing instrument were as follows: butler, tailor, magician, country, mirror, search, coat, message, carriage, suit, parlor, manor, measured, share, stare, knocked, unzipped, woke up, unhappy, chair.

PROCEDURE

Procedure for Assigning Subjects to Treatments

Four equivalent groups were created prior to administering treatments by matching subjects on the basis of vocabulary pretest scores. Pretest scores belonging to all subjects were listed from lowest to highest. The experimenter identified the first group of scores from this master score list then randomly assigned the subjects associated with those scores to one of four groups. These groups were then randomly assigned to one of the four treatment conditions.

Treatment and Testing Schedule

The selection of subjects was followed by preliminary activities which included meetings with teachers and classroom visitations which allowed the experimenter the opportunity to establish rapport with the children. Two days later the vocabulary pretest was administered, followed by a four-day treatment period one and a half weeks later. During the treatment period, tapes were played three consecutive times. At the end of this treatment period, the first posttest was administered while the second vocabulary posttest was administered one and a half weeks later.

Description of Treatments

All subjects were instructed to enjoy listening to the story which was played on the audio tape. Audio cassette tapes allowed for standardization from one exposure to the next. Tape recordings were also the preferred means of administering musical treatments in other investigations (Gingold, 1989; Gfeller, 1982).

The Music treatment group heard the story in its sung version while the No Music group heard the spoken rendition of the story (i.e., oral story). Subjects in the Illustration treatment groups were shown large color illustrations of the story while listening to the tape-recording. The words which had been printed on each page of the storybook were covered with strips of white paper. Subjects were able to derive the meaning of unfamiliar words from the illustrations. Subjects in the No Illustration group were not shown illustrations, therefore, they extracted meaning from contextual information.

ANALYSIS OF DATA

In order to determine the short-term and long-term effects of music and illustrations, the dependent variable, vocabulary acquisition, was measured prior to treatment (pretest) and at two additional points in time: (1) at the end of the four-day treatment period (Posttest 1), and (2) one and a half weeks after the last treatment (Posttest 2). Consequently, the amount of vocabulary acquired was determined by computing two vocabulary gain

scores: Gain 1 scores, which were representative of the initial amount of vocabulary acquired, and Gain 2 scores, which represented the amount of vocabulary acquired and retained over a longer period of time. In light of these distinctions, two two-way analyses of variance (ANOVA) were performed, one for each set of gain scores. Given that the hypotheses being tested were nondirectional, a significance level at the .05 level was set.

RESULTS

No statistically significant differences were found between the main effects of Medium (Music/No Music), Extralinguistic Support (Illustration/No Illustration) or their interaction, when initial gain scores and retained gain scores underwent analysis (see Tables 1 and 2). There were, however, definite patterns found in the descriptive data which were noteworthy.

When vocabulary acquisition was measured immediately after the four-day treatment, mean vocabulary gain scores were consistently higher for Music treatment groups and Illustration groups (see Table 3). The group subjected to the combined effects of both Music and Illustrations produced the highest mean vocabulary gain (1.50 words) of the four treatments. As Table 3 indicates, there was a difference of .77 words between the average amount of vocabulary acquired when the combination of music and illustrations was compared to the absence of this combination.

This general pattern was mirrored by the data obtained one a half weeks after treatment (see Table 4). Mean gain scores were consistently higher for Music treatment groups and Illustration groups. The group subjected to the combined effects of both Music and Illustrations acquired an average of 1.75 words, .93 more vocabulary than the No-Music No-Illustrations group.

Figure 1 illustrates the relationship between the four treatments and the mean vocabulary gain scores which were obtained immediately after treatment and one and a half weeks later. As this figure indicates, the relative order was maintained over time. While the effects of illustrations was seemingly quite powerful, it was the addition of music which appeared to boost the positive

effects of the illustrations.

In order to determine whether the treatments had differential effects upon subjects exhibiting different levels of English proficiency, additional analyses were performed. For the purposes of this investigation, subjects scoring below 8 on the vocabulary pretest were designated as low proficiency students while those scoring above 12 were termed high proficiency students. Low proficiency level mean vocabulary gain 1 and 2 scores consistently followed the same pattern noted previously The differences between treatments was greater and more dramatic. Immediately after receiving their treatments, low proficiency subjects exposed to the combination of music illustrations produced the greatest amount of vocabulary gain (i.e., 2.33 words) as opposed to the No Music-No Illustration group (i.e., .33 words) (Table 5).

Low proficiency students in the Music-Illustration group acquired an average of 2.0 more words than subjects listening to the No-Music and No-Illustration story versions. After one and a half weeks had elapsed, the difference between these two treatments was equally dramatic, with the Music-Illustration group acquiring an average of 3.33 words, in contrast to the No-Music No-illustration group which acquired an average of 1.0 words, a difference of 2.33 more vocabulary words (see Table 6).

Figure 2 illustrates the relationship between the Low Proficiency subjects' Gain 1 (initial) and Gain 2 (retained) vocabulary scores. While the average number of vocabulary words increased slightly over time, the greatest increase was experienced by the Music-Illustration group which acquired an average of 1.0 words more after a one and a half week period.

As Tables 7 and 8 indicate, high proficiency initial and retained gain scores did not conform to this pattern. For high proficiency learners, initially, upon receiving treatment, the average vocabulary acquired by high proficiency learners was slight with the exception of the Music-Illustration group which acquired an average of 1.25 vocabulary words (see Table 7).

According to Table 8, by the end of the one and a half week period, the four treatment conditions appeared to have little

impact upon vocabulary acquisition. Three of the four treatments produced no gain in vocabulary acquisition with the exception of the Music-No Illustration group which produced an average gain of .5 words.

Figure 3 displays the average amount of vocabulary gain belonging to the subjects receiving the fur treatments both initially upon receiving treatment and after one a half weeks (retained). The effects of music and illustrations appear to have faded with the high proficiency subjects over time. This is in contrast to the low proficiency subjects whose Music-Illustration effects increased over time by an average of 1.0 words.

Table 1

Summary of ANOVA Gain 1 Scores

Source	SS	df	MS	F	P
M/N M (Medium)	.09	1	.09	.49	.49
I/N I (ES)	.22	1	.22	1.17	.28
Medium X ES	.04	1	.04	.21	.65
Within Cell	8.27	44	.19	—	—

Table 2

Summary of ANOVA Gain 2 Scores

Source	SS	df	MS	F	P
M/N M (Medium)	.12	1	.12	.38	.54
I/N I (ES)	.34	1	.34	1.12	.30
Medium X ES	.11	1	.11	.35	.56
Within Cell	13.59	44	.31	—	—

Table 3

Mean Gain 1 Scores Belonging to Four Treatment Groups

		Music	No Music	Total
Illustration	X	1.50	1.00	1.25
	SD	1.24	2.00	
	N	(12)	(13)	
No Illustration	X	.83	.73	.78
	SD	1.33	1.19	
	N	(12)	(11)	
Total		1.16	.86	

Table 4

Mean Gain 2 Scores Belonging to Four Treatment Groups

		Music	No Music	Total
Illustration	X	1.75	1.08	1.41
	SD	1.81	1.80	
	N	(12)	(13)	
No Illustration	X	.83	.82	.82
	SD	2.33	1.66	
	N	(12)	(11)	
		1.29	.94	

Table 5

Mean Gain 1 Scores Belonging to Low Proficiency Subjects

		Music	No Music	Total
Illustration	X	2.33	2.00	2.16
	SD	.58	2.83	
	N	(3)	(4)	
No Illustration	X	1.50	.33	.91
	SD	1.00	1.53	
	N	(4)	(3)	
	Total	1.91	1.16	

Table 6

Mean Gain 2 Scores Belonging to Low Proficiency Subjects

		Music	No Music	Total
Illustration	X	3.33	1.50	2.41
	SD	1.15	1.29	
	N	(3)	(4)	
No Illustration	X	1.75	1.00	1.37
	SD	2.63	0.00	
	N	(4)	(3)	
	Total	2.54	1.25	

Figure 1

Relationship Between Treatment and Mean Gain Scores

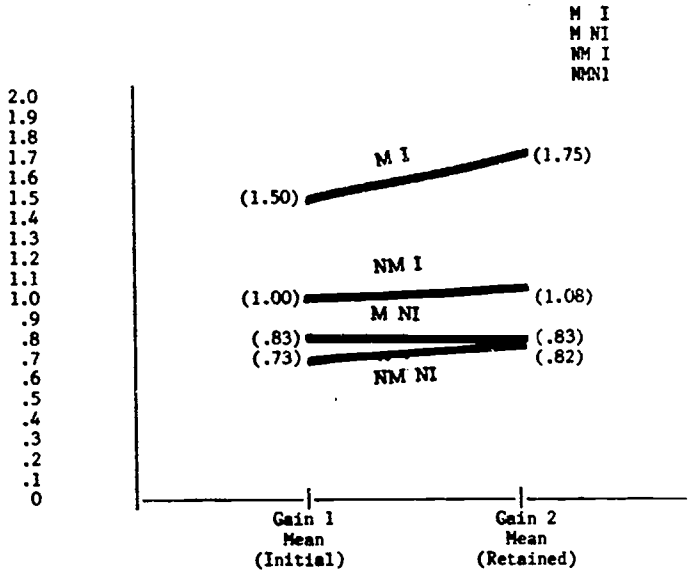


Figure 2

Relationship Between Treatment and Mean Gain Scores
in Low Proficiency Subjects

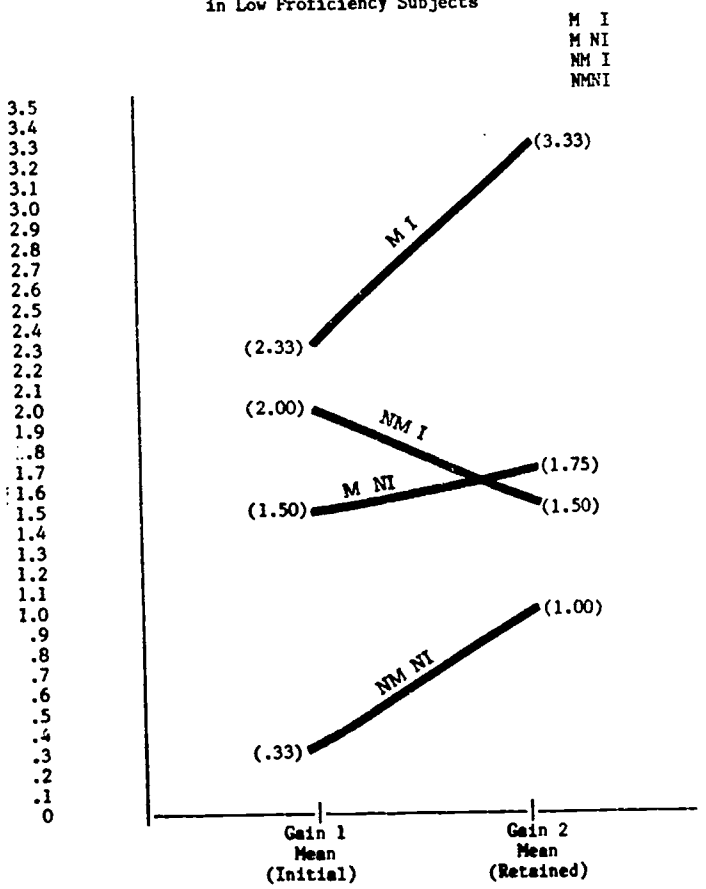


Table 7

Mean Gain 1 Scores Belonging to High Proficiency Subjects

		Music	No Music	Total
Illustration	X	1.25	0.00	.62
	SD	1.25	.71	
	N	(4)	(5)	
No Illustration	X	.5	.25	.37
	SD	1.29	.50	
	N	(4)	(4)	
	Total	.87	.12	

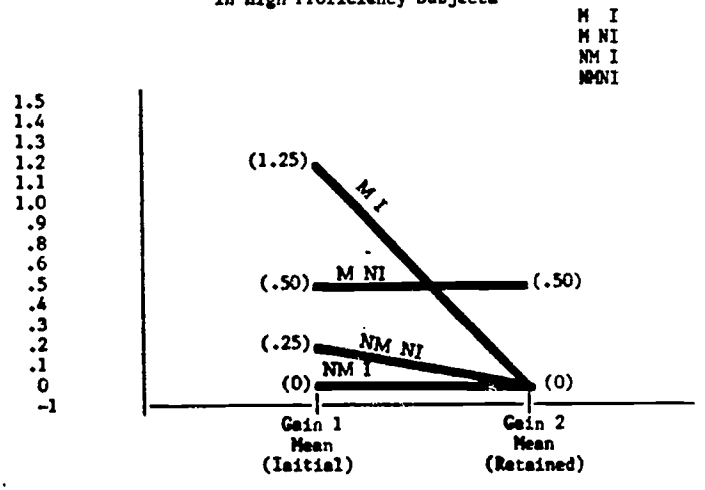
Table 8

Mean Gain 2 Scores Belonging to High Proficiency Subjects

		Music	No Music	Total
Illustration	X	0.00	0.00	0.00
	SD	.82	.70	
	N	(4)	(5)	
No Illustration	X	.50	0.00	.25
	SD	1.73	1.41	
	N	(4)	(4)	
	Total	.25	0.00	

Figure 3

Relationship Between Treatment and Mean Gain Scores in High Proficiency Subjects



DISCUSSION

Effects of Medium & Extralinguistic Support

From the findings of this investigation, several conclusions could be drawn. As the analyses of variance revealed, statistical significance was not achieved for the main effect of Medium (Music/No Music). Acceptance of the null hypothesis implied that the two media (Music/No Music) produced comparable amounts of vocabulary acquisition. Stated differently, the same amount of language acquisition resulted whether musical or non-musical means were used. It follows than, that music is a viable vehicle for second language acquisition. This finding is consistent with the statements which have been made regarding the efficiency of music upon language acquisition (McCarthy, 1985; Jalongo & Bromley, 1984; Martin, 1983; Mitchell, 1983; Jolly, 1975). Consequently, from this investigation have succeeded at providing empirical support for previously unsupported statements. Acceptance of the null hypothesis also implied that music neither markedly helped nor hindered vocabulary acquisition in the group of subjects. The descriptive data demonstrated definite and consistent patterns favoring music. These patterns were consistent with the psychological research which provided evidence of music's positive effects upon other forms of verbal learning (Schuster & Mouzon, 1982; Gfeller, 1983; Staples, 1968; Ryan, 1969; Weener, 1971; Shepard & Ascher, 1972; Milman, 1974).

The main effect of Extralinguistic Support (Illustration/No Illustration) did not produce statistical significance at the .05 level. However, the raw data revealed a definite pattern: Illustrations consistently produced higher levels of vocabulary acquisition than No Illustration groups, both in the short and long term. This general pattern favor of Illustrated treatments was expected in light of the research on comprehensible input (Krashen, 1985) and picture illustrations (Hudson, 1982; Omaggio, 1979; Mueller).

Although the interaction between music and illustration was not statistically significant at the .05 level, the combination of

music and illustrations consistently yielded the highest average amount of vocabulary gain. The positive effects produced by the combination of music and illustrations was predicted from the psychology literature. Several studies, particularly the studies on rhythm and verbal learning reported positive effects from the combination of music and meaning upon memory retention (Weener, 1971; Glazner, 1976; Shepard and Ascher, 1972).

Clearly, illustrations boosted the effects of music, yet, could additional extralinguistic support, beyond that supplied by illustrations, further maximize music? Both Cohen (1968) and Elley (1989) demonstrated that the addition of follow-up activities to illustrated oral story readings resulted in greater vocabulary acquisition. When Elley compared illustrated oral stories with and without additional vocabulary elaboration, vocabulary acquisition was highest when additional support was provided. One of the two stories used in the study yielded a mean vocabulary gain of 39.9% when vocabulary were further elaborated upon as opposed to a 14.8% gain without these elaborations. The story readings in this investigation, those designated as "No Music-Illustration" were similar to Elley's "No explanation" treatment. Therefore, it is possible that vocabulary gain could be increased with multiple forms of extralinguistic support.

Limitations of this Study

There were several limitations which may have affected the generalizability of this study. In this investigation, exposure to music and illustrations occurred over a 4-day period, yet this may not have been sufficient time to observe a change in the students' ability to acquire vocabulary. The outcome of this study may have been affected by other factors such as degree of cooperation and attention span limits. Because subjects participating in this study were representative only of the population from which they were sampled, generalizations to pupils of other age groups, socioeconomic backgrounds and geographical areas cannot be made. Finally, the sample size may not have been large enough to study the constructs of this investigation.

Still another limitation may have been the nature of the story which was selected used in this investigation. This story, Benjamin Bear, may have had certain characteristics which did not produce large gains in language acquisition. Elley (1989) found that differential effects were obtained as a result of using two different stories in her study. Gains for Rapscallion Jones were more dramatic than those resulting from readings of The White Crane. While subjects hearing the first story produced a mean gain of 14.8% vocabulary words, subjects hearing the second story gained only 4.4%. Neither of these stories were accompanied by additional follow-up activities, therefore, these were similar to the No Music Illustration treatment in this investigation. It is possible that the gains reported for the No Music-Illustration group were similarly influenced by the story itself since the mean gain (5.0%) approximated those produced by White Crane. When Elley introduced a second story, the gains were markedly higher. Therefore, the gains reported in this investigation may have been low due to the characteristics of the story being used. However, the exact nature of these story characteristics is unclear. Any number of factors could have contributed to the differential effects of the two stories used in Elley's study. In their study of vocabulary acquisition from reading, Anderson, Nagy and Herman (1987) found that vocabulary acquisition was influenced by the proportion of conceptually difficult words in the passage being read. In their study, little acquisition took place when a large number of conceptually difficult words were present. Similarly, oral passages may produce varying degrees of vocabulary acquisition depending upon the conceptual complexity of the vocabulary in the passage being read. Similarly, the subjects' reaction to the melody used in this investigation may have affected the amount of vocabulary acquired. The melody used may or may not have been appealing to the subjects in this investigation. In short, all of the above-mentioned studies serve as a reminder that the amount of gain can be influenced by any number of factors.

Implications

This finding has definite curricular implications. If music is a viable vehicle for second language acquisition to the same extent as other non-musical means, then songs can no longer be regarded as recreational devices, having little instructional value. Consequently, musical means of promoting second language acquisition should occupy a more important role in the second language curriculum. This can easily be accomplished by increasing the frequency with which songs are used in the curriculum. Even if the child acquires a mean of 2.0 words as the result of listening to an illustrated story-song, much has been gained given the relatively small investment of time. In this investigation, subjects were exposed to 10 minutes of a story over a 4 day period. If similar story-songs were played on a regular basis this seemingly small amount of vocabulary gain would grow. For example, assuming that this amount of gain did not radically vary, the child could acquire approximately 72 new words over a nine month period by simply listening to one story song each day. If two songs were played each day, subjects could acquire approximately 144 words. Furthermore, those newly acquired words, serving as comprehensible input, could contribute to he acquisition of other words. Elley (1989) similarly spoke of the contributions which could be made to the child's vocabulary by reading an illustrated story with occasional explanation of vocabulary words. According to Elley, "there are clearly good linguistic grounds for increasing this activity, over and above the recreational and cultural reasons for doing so." In short, the investment of time is relatively small, yet the potential benefits in terms of vocabulary acquisition are great.

Not only can children benefit from additional exposure to the second language, songs can provide the classroom teacher with an alternative means of promoting second language acquisition apart from non-musical means such as oral stories. Between the two, musical approaches are often preferred. As part of the pilot study, subjects were asked if they preferred sung stories or spoken stories. All 23 children responded in favor of the sung stories.

Therefore, songs may prove to be a better means of capturing the attention of children who show little interest in oral stories.

Future Research

Given the limitations of this study, there is a definite need for additional research on this topic. For one, similar investigations need to be made employing large numbers of subjects. The absence of statistical significance may have been due to the relatively small number of subjects who participated in this study. Large sample sizes increase the power of the statistical test (Hinkle, Wiersma, Jurs, 1988). Additionally, future studies need to be made in which more than one story is used. This is necessary since stories differ in terms of characteristics (e.g., motivational level) which ultimately influence the amount of vocabulary acquisition. Futhermore, given the research literature, it would be helpful to learn whether additional extralinguistic support (e.g., further explanation) is critical to the effectiveness of music and its impact upon language acquisition. Apart form these areas of future study, there is a need to conduct research on subjects or various age levels in order to determine whether the impact of music is greatest at any one particular developmental period.

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