College of Saint Benedict and Saint John's University
DigitalCommons@CSB/SJU

Celebrating Scholarship and Creativity Day | Undergraduate Research

4-25-2019

Visual vs Auditory Learners and Retention of Song Lyrics

Karis Knoff
College of Saint Benedict/Saint John's University, KKNOFF001@CSBSJU.EDU

Follow this and additional works at: https://digitalcommons.csbsju.edu/ur_cscday

Recommended Citation

Knoff, Karis, "Visual vs Auditory Learners and Retention of Song Lyrics" (2019). *Celebrating Scholarship and Creativity Day*. 64.
https://digitalcommons.csbsju.edu/ur_cscday/64

This Paper is brought to you for free and open access by DigitalCommons@CSB/SJU. It has been accepted for inclusion in Celebrating Scholarship and Creativity Day by an authorized administrator of DigitalCommons@CSB/SJU. For more information, please contact digitalcommons@csbsju.edu.

Visual vs Auditory Learners and Retention of Song Lyrics

Karis M Knoff

College of St. Benedict/St. John's University

Author Note

Karis Knoff, Psychology Department, College of St. Benedict/St. John's University

Correspondence concerning this article should be addressed to 37 S College Ave, St. Joseph, MN, 56374, PO Box 0927; E-Mail: kknoff001@csbsju.edu

Abstract

This study investigated the difference between auditory learners and visual learners and their ability to retain song lyrics. I hypothesized that participants who hear the lyrics through auditory learning will retain more song lyrics than the participants who read the song lyrics through visual learning. The study included 20 college students. 10 were randomly assigned to condition A, which had participants listen to a song, the remaining 10 were randomly assigned to condition B, which had participants read the same song's lyrics. Result showed a significant results from an independent sample t test, t(18)= -2.807,p=.012, d= 1.25. These results however, contradicted my prior research and hypothesis, implying that perhaps visual learners retain more song lyrics than auditory learners. Future research can be done concerning the type of post- test given.

Keywords: auditory learners, visual learners, song lyric retention

Auditory vs Visual Learners and Retention of Song Lyrics

Every student learns differently. There are four main different learning styles, including visual learners, auditory learners, kinesthetic learners and reading/writing learners. "Subsequently, many different dimensions of learning styles have been investigated both conceptually and empirically, and numerous theories and multiple taxonomies attempting to describe how people think and learn have been proposed, often classifying individuals into distinct groups" (Hatami, 2012) The most common learning styles is auditory and visual learning. An important implication with different learning styles is the student's ability to retain more information with a different learning style. Many studies have been done to investigate this implication.

Musicians are a specific group of people who use both auditory and visual methods of learning. Korenman and Peynircioglu decided to look at two aspects of auditory and visual learning. The first aspect, and the one on which I will focus on, being whether auditory or visual learning is more effective. With a sample size of forty adults, all meeting a specific musical experience criteria, and all of which self-categorized themselves as auditory learners or visual learners prior to the experiment. Visual learners were presented a melody and were then asked to recall the melody by writing the notes on a sheet of paper. Auditory learners listened to the melody and were asked to hum the melody back to the researchers. "Overall, learning efficiency did not vary as a function of whether the materials were presented visually or auditorily, $f(1,36)=.98$, $MSe= 0.48$, $p>.10$" (Korenman & Peynircioglu, 2007).

A study conducted by Budoff and Quinlan at the University of Massachusetts in 1964, focused specifically on auditory and visual learning in primary grade children. They tested fifty

six second grade children with paired-associate tasks. The visual task showed students various word pairs and they were then asked to repeat as many word pairs as they could. The aural test had a researcher speaking the word pairs to the children, who were then asked to repeat them. "The word pairs presented aurally were more quickly learned than the visually presented pairs ($F=49.75$; $p=.001$)" (Budoff & Quinlan, 1964). This allowed them to conclude that for primary aged children, aural learning appears to be more rapid and efficient.

Alina-Mihaela Busan looked at the learning styles common for medical students. The purpose of the study was to understand the distribution of learning styles among the medical students, and see how learning styles can be combined throughout the education since their profession requires both skills. The 230 participants took a questionnaire to determine their preferred learning style. The subject's learning style was "33% visual, 26% auditory, 14% kinesthetic, 12% visual and auditory styles equally, 6% visual and kinesthetic, 4% auditory and kinesthetic and 5% all three styles" (Busan, 2014). This shows that although most students are one learning style, students can also prefer learning through a hybridization of both.

This study will investigate the difference between auditory learners and visual learners, and their ability to retain song lyrics. I hypothesis that participants who hear the lyrics through auditory learning will retain more song lyrics than the participants who read the song lyrics through visual learning. I tested this hypothesis with an experiment involving two independent groups. Participants took part in a condition regarding learning song lyrics visually or auditorily and were given a post test to see their retention of the song lyrics.

Methods

Design

I conducted an independent group design, post-test only experiment. This study was part of a class project for Research Methods.

Participants

There were 20 participants. 10 were assigned to condition A, 10 were assigned to condition B. There were 15 women and 5 men.

Materials and Procedures

Participants were assigned to conditions by block randomization. There were two independent groups. Condition A had participants listen to the song "South" by the band Hippo Campus using headphones. After the song was played they were given a post-test containing 8 multiple choice questions about the lyrics of the song. Condition B had participants read a printed out version of the song lyrics, from the same song, one time through. After they read the lyrics, they were given the same post-test containing 8 multiple choice questions about the song lyrics. Both groups wore headphones during the condition to control for distractions.

Results

The average score for auditory learners, condition A, was 4.6, *(SD= 1.079).* The average score for visual learners, condition B, was 5.9, *(SD= .994).* An independent samples t test was performed and showed a significant result, t(18)= -2.807,p=.012, d= 1.25. Cohen's d showed that

there was an extremely large effect size. The 95% confidence interval ranged from -2.27 (LL) to -3.27 (UL).

Discussion

Results showed a statistically significant relationship and an extremely large effect size. Due to prior research, my original hypothesis stated that participants who hear the lyrics through auditory learning will retain more song lyrics than the participants who read the song lyrics through visual learning. The results did not support this hypothesis. Participants in condition B, those who learned the lyrics visually, scored significantly better than participants in condition A, who learned the lyrics auditorily.

These results are important. Although The prior researchers that I based my hypothesis on, Budoff and Quinlan, stated that auditory learners will perform better than visual learners, my experiment showed important findings that can indicate that reading could be a superior form to studying rather than listening.

Construct validity was evident in my experiment. Directions appeared to be understood. The 8 post- test questions were clear and concise. Since they were multiple choice questions however, there could have been a slight bias with participants guessing. My hypothesis could have been incorrect. Also, since each participant took a written post- test there could have been an advantage to visual learners who had previously seen the lyrics on paper instead of hearing them.

Since this was not a random sample, there is no external validity. There was internal validity due to the random assignment of participants to the conditions. All participants received

identical procedures, allowing the experiment to be constant and consistent throughout the entire experiment. Statistical validity was evident with no restriction of range, no outliers and a proper p value and effect size.

Some of my results could be due to some limitations in my experiment. The chosen song was very repetitive, therefore visual learners re-read the same lyrics over again in a shorter amount of time than auditory learners re-heard the same lyrics over again. The visual test took less time than the auditory test, which once again, allowed visual learners less time to forget the lyrics, while auditory learners could have gotten distracted by the accompanying background music in the song. Since all post-test were given on paper, this could have given an advantage to visual learners who had previously seen the lyrics on paper, in contrast to the auditory learners who had only heard the lyrics.

While these results are important and significant, there are a few things I would do differently next time. In future research, I would control variables better. Perhaps divide participants between a self-reported auditory or visual learner, prior to the experiment. I would also like to look at the difference between the type of post-test given. I would have some participants take the post test on paper, and others to take an auditory post- test, having the researcher ask them the questions out loud.

References

Budoff, M., & Quinlan, D. (1964). Auditory and Visual Learning in Primary Grade Children. *Child Development, 35*(2), 583-586. doi:10.2307/1126722

Busan, Alina- Mihaela. (2014). Learning Styles of Medical Students- Implications in Education. *Curr Health Sci J, 40*(2), 104-110. doi: 10.12865/CHSJ.40.02.04

Lisa M. Korenman, & Peynircioglu, Z. (2007). Individual Differences in Learning and Remembering Music: Auditory versus Visual Presentation. *Journal of Research in Music Education,55*(1), 48-64. Retrieved from http://www.jstor.org/stable/4494330

Sarvenaz Hatami,(2013) Learning styles, *ELT Journal, 67* (4), 488–490. https://doi.org/10.1093/elt/ccs083