



They're Playing Our Song Language, music, and memory Pam Bridgehouse

One day as I reminisced about my 1993 trip to Germany, I began contemplating the phenomenon that although I had spoken German with non-English speaking people, I recalled the substance of those conversations in English. Likewise, I realized that when I recalled conversations in Spanish, my memories were almost always in English. I began to wonder whether conversing in one language but processing the content and remembering in another was uniquely my experience.

Little did I know that my curiosity about this issue would take me through many hours of thought plus several fact-finding endeavors?

First, I visited with people who spoke English only at school. I asked them, "When you're at home and you think about conversations you've had in English, do you remember the substance of those conversations in English or in Spanish (Russian)?" A native of Chile who has lived in the United States for many years and had earned an advanced degree in this country, told me that when he first came to the United States to attend graduate school, his thoughts were entirely in Spanish. He said that was a difficult time. He often suffered from digestive problems caused by the stress of functioning in English, while mentally processing everything in his native Spanish. He said that because he has now spoken English for so many years, his memory presently functions in both Spanish and English but he still dreams in Spanish.

One of my bilingual (Spanish/ English) sixth grade students spoke no English when he entered kindergarten, but learned it very quickly. He told me that away from school his memories and thoughts are equally in Spanish and English.

I asked a class of 18 Hispanic children and one Russian child, nearly all of whom speak English only at school, in what language they remembered conversations at school. All of them who use exclusively their native language at home said that they remembered and thought about their English conversations in their native language.

I have known for a long time that the ability to think in the language being spoken is a sign of true fluency. Translating ideas and information into another language before acting on them slows the mental process and fluency in communication.

As I pondered these facts, I came to realize that, as a teacher of students who hold English as their second language, I should employ not only tools which assist children in learning to SPEAK English but should also use tools that facilitate my students' ability to THINK in English. "But what," I queried, "are those tools?" I found the answer right in my own classroom. It's music! Music is the tool!

My personal experience has shown that vocabulary and facts presented in song are restated with greater fluency and are more easily recalled than those presented in spoken language. As mentioned at the beginning of this article, when I think about spoken language, other than English, I process that into English. On the other hand, when I sing songs not in English, my inner hearing performs in the language in which the song is sung, not a translated English version. I believe that this is a common experience, and that music facilitates memory that is more complete and more easily recalled than memory of spoken language alone.

As time passed, I became more and more convinced that music was a means to help children learn. Several years ago I taught a song in the language of Tahiti to a class of K-2 children. The children were reasonably well acquainted with the literal translation of the song. After they were well able to sing the song independently, I began a lesson with a "secret song" activity. I clapped the rhythm of the song, expecting the children to recognize it. When I saw in their faces that they did indeed recognize the song, I said, "Let's sing it." They all spontaneously sang the song in the Tahitian language. They could do that only if they were thinking the language of the song, actually hearing the Tahitian language in their "inner hearing." They had sung the song only in Tahitian, and so for them, rhythm patterns of the song "called up" or "triggered" the Tahitian language. This has happened repeatedly with many classes using songs in Spanish, French, and a song from Ghana. It seems as though the words of the song were carried in and out of the memory on the rhythm and melody.

A common practice in teaching foreign language songs and phrases is to speak the language and have the students echo the spoken phrases, then set those phrases to the music. Prior to this study, I had taught songs that way but now I believe that echoing in singing phrases is superior to applying melody to phrases that have been practiced by speaking. After the sung phrases have been practiced, speaking them is another means for reinforcement, but the melody track should be present prior to that.

Then another question surfaced in my mind. “When someone recalls a musical experience, in what language is his or her memory of that experience?” Music seems to be recalled as it was experienced. The memory of orchestral music sounds to the mind, the “inner hearing,” like an orchestra. The memory of a song is recalled as the sound of the singer's voice and the accompanying instruments. In recalling a choral performance one hears the choir. No translation is necessary. The whole musical experience seems to remain intact in the memory.

We know also that it is possible to remember the melody of a song while not being able to recall the words. If one repeats the melody or a segment of the melody, the words can suddenly "reappear" and the memory of the song becomes complete. On the other hand, it is possible to remember the words of a song without your mind filling in the melody. We've all had the experience of hearing a word or word phrase that triggers the memory of a song which will not leave us alone until we have sung it. It seems the music and the words are inseparable.

I continued to study and search for more information to confirm my belief that music can help children begin to THINK in the language they are singing. I learned that scientific evidence supports a strong connection between music, specifically singing, and the ability to understand and remember language.

- Testing indicates that language is processed by the left hemisphere of the brain, while melody is processed by the right hemisphere.¹ Therefore singing is a holistic experience for the brain and has been shown to have positive extra-musical effects on cognition.²
- Pitch change may be the most important factor in conveying word information.³ Research based on specific brain responses to pitch intervals has indicated that intervals may be viewed by the brain as meaningful words when presented in isolation.⁴
- Additionally, there appears to be a connection between music and memory. Re-search shows that cognitive skills and short term memory are both affected by music study.⁵ Educators can present facts and experiences in song form or with careful application of background music. This may enable students to recall with greater accuracy than without the presence of music.

- Verbatim memory of language seems to be only one type of memory which can be facilitated by musical experience. Music has been shown to be an important element in contextual memory (the effect of the original context in which the learning occurred), and can have an effect on the learner's ability to recall information.⁶ It has been demonstrated that music enters into memory through its effects on mood, and that “music-induced mood is a thread in the tapestry” of memory.⁷ Couples may be heard to say, “they’re playing ‘our song’.” Hearing a melody triggers holistic recall of an experience which may include memory of a mood, lighting, aromas, weather or other physical or emotional conditions, and any combination, or sum of those elements of the experience. This may be due to the fact that when music is included in an experience it is encoded by the brain in the memory as part of that experience.

- There is melody in the inflection of speech, which can in a lesser way than musical melody serve as a memory trigger. The brain processes musical intervals as units of meaning. That would apply also to the musical intervals present in spoken inflection. Rhythm (processed by the left hemisphere) and meter (processed in the right hemisphere) cooperate to trigger memory of language (left) and meaning (right).

- Music is a direct route to some of the innermost and basic sections of the brain. This facilitates memory and cognition.

- Because of its seemingly inseparable connection with language and memory, and its unique ability to draw response from the whole brain, music is a powerful tool and should be included in all learning experiences where recall is expected.

This brings us to the question that we in the world of education need to be asking, “Are we using music to its fullest advantage?”

So ends this episode in my journey for understanding. After sharing this information with the superintendent of one of the districts in which I work, he was convinced of the power of music in education. I was asked to start the fall in-service for the entire district staff with a music activity. The staff, including bus drivers, office staff, custodial staff, food service, teachers and administrators sang Scotland’s Burning, and I shared a few scientific findings about music and learning. We moved, sang in solfege and with hand signs, laughed and had a memorable time. I left that meeting feeling as though music had been given a place of importance in this district where, according to our agricultural science teacher, it had been neglected and abused for nearly 25 years.

As anyone who has ventured upon a journey of this kind knows, the journey really never ends. As my search for understanding continues, I wonder what will be the next question to surface and what I will find.

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