

Teacher Perceptions of Memorization in String Instructional Settings: An Exploratory Study

Jacob M. Dakon, Ph.D.
Abbey L. Dvorak, Ph.D.



Purpose

Memorization forms the foundation of all human learning (Anderson & Krathwohl, 2001; Bloom, 1956). Additionally, memorization increases long-term retention of information (Roediger & Karpicke, 2006), and develops the mental representations needed to cultivate expertise (Ericsson, Krampe, & Tesch-Romer, 1993). From a musical perspective, memorization alleviates performance issues (e.g., page turns), allows for greater focus on non-score related performance aspects, and increases performers' understanding of musical works (Aiello & Williamon, 2002; Ginsborg, 2002). Memorization may even develop sight-reading, playing-by-ear, and improvisation ability (McPherson, Bailey, & Sinclair, 2006). Evidence, however, suggests that instrumental music teachers are reticent about encouraging their students to memorize musical patterns and contexts beyond developing basic pitch- and rhythmic-reading skills. These skills, instead, seem relegated to jazz or other specialty ensembles (McPherson, 1997; Woody & Lehmann, 2010). As a result, instrumental students tend to perceive memorization as difficult or virtuosic, rather than a natural mode of learning (Woody & Lehmann, 2010). This predicament brings to light a topic largely unexamined in music memory research. How do music teachers use memorization in class and studio settings?

The purpose of this study was to acquire baseline data about string instructors' perceptions regarding memorization in an attempt to examine how memorization is being used in string class and studio environments.

Participants

Participants ($N = 126$; male = 38.9%, female = 61.1%) consisted of adult private-studio and public-school music educators, ages 18 and older. Participants' primary instruments included strings (79.4%), woodwinds (10.3%), brass (7.1%), piano (1.6%), percussion (< 1%), and voice (< 1%). Of the self-reported string players, 52% played violin, 20% cello, 14% viola, 13% bass, and 1% harp.

Method

A survey was used to examine string teachers' conceptualization, perceptions, personal level of ease and enjoyment, and means of application with regards to memorization in string instructional environments. Of the 21 survey items, eight used a 6-point Likert-scale response (1 = strongly disagree, 6 = strongly agree), two were open-ended, and the remaining 11 required participants to select the most appropriate response that corresponded with their current situation or disposition (response rate = 29%)

1. How do teachers conceptualize memorization?

Content Analysis: Self-Reported Definition for 'Memorization' ($N = 104$)

Themes	Frequency
Encoding	17 (7.1%)
Aural Encoding (7)	
Visual Encoding (5)	
Kinesthetic/Tactile Encoding (4)	
Emotional Encoding (1)	
Storage	38 (15.8%)
Knowing (20)	
Without Music (12)	
Deeper Understanding (8)	
Working Memory Processes (6)	
Committing (5)	
Storing (4)	
Internalizing (3)	
Retrieval	164 (68.3%)
Recall (133)	
Visual (105)	
Multimodal (15)	
Aural (10)	
Kinesthetic (3)	
Enhancement (31)	
Playing (16)	
Performing (15)	
Learning	20 (8.3%)
Deeper Understanding (15)	
As a Memorization Process (3)	
Without Music (2)	
Do Not Support Memorization	1 (< 1%)
Total	240

3. What are teachers' perceptions regarding the benefits and use of memorization?

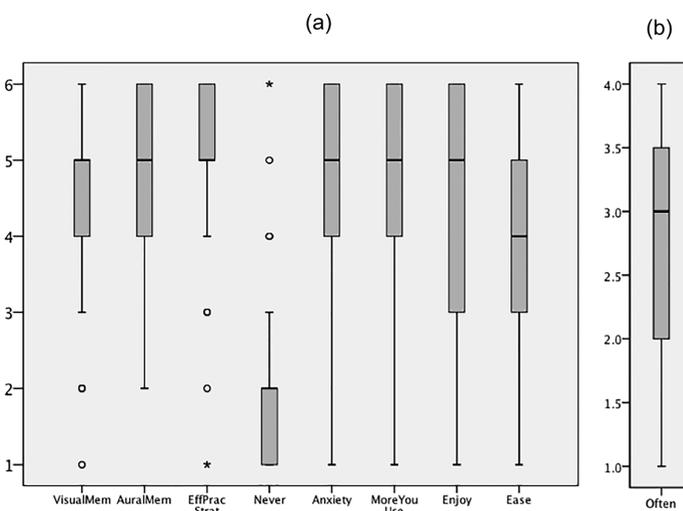


Figure 1. Medians and Interquartile Ranges for Question #3. Figure 1.a used a 6-point Likert scale (1 = Strongly Disagree, 6 = Strong Agree). Figure 1.b employed a 4-point Likert-scale (1 = Never, 4 = Frequently).

4. How do teachers apply memorization in string class and studio instructional environments?

Content Analysis of Self-Reported Memorization Strategies ($N = 106$)

Themes	Frequency
Analysis (Patterns, Form, Harmony, Melody, Accomp., etc.)	51 (14.7%)
Aural (Imitation, Audition, Playing by Ear, Listening, etc.)	50 (14.4%)
Segmental	36 (10.4%)
Repetition	34 (9.8%)
Self-Evaluation (Closing eyes, Turning over music, etc.)	32 (9.2%)
Additive Processes	25 (7.2%)
Singing	16 (4.6%)
Kinesthetic	15 (4.3%)
Musical Material	14 (4.0%)
Preparatory Material (Scales, Etudes, Solfedge)	9
Performance Material (Solos, Tests, Variations)	5
Teaching Techniques (Association, Games, etc.)	14 (4.0%)
Performance (Preparation, Concerts, Enhancements)	12 (3.5%)
Emotions	11 (3.2%)
Visualization (Picturing Music in the Mind)	9 (2.6%)
No, Partial, or Optional Memorization	4 (1.2%)
Total	347

Conclusions

- How do teachers conceptualize memorization?
 - String teachers defined memorization as a visual-encoding process where information was learned well enough to yield successful recall-based retrieval. This is a much narrower definition than that of cognitive psychologists, who define memorization as the act of encoding, storing, and retrieving information for the cognitive mechanism.
- Is there a difference between teachers' perceived level of importance regarding visual versus aural memorization?
 - String teachers supported aural memorization significantly more than visual memorization ($z = 3.178, p = .001$).
- What are teachers' perceptions regarding the benefits and use of memorization?
 - String teachers supported the use of memorization in string instructional environments and that students should memorize musical material at some point in their musical training.
- How do teachers apply memorization in string class and studio instructional environments?
 - String teachers may not recognize a standardized method of teaching memorization. Analysis and aural strategies were mentioned most, but only by 50% of the teachers. Segmentation, repetition, self-evaluation, and additive strategies were only mentioned by 25-35% of teachers.
 - String teachers indicated only using memorization strategies 'rarely' or 'sometimes' over the course of one academic year.
 - String teachers appear more supportive of memorizing fundamental skills (i.e., scales, arpeggios, and method book exercises), solo literature, and specialty music rather than orchestral or chamber literature.