MULTIMODALITY AND LEARNING STYLE MODELS

"WHAT IS YOUR LEARNING STYLE?"

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WHAT IS A LEARNING STYLE?

There is no definite consensus on what a learning style actually is.

WHY LEARNING STYLES?

If learning styles have been proven to be a myth time and time again, why do we still cling to them?

MULTIMODALTY AND LEARNING STYLES

Multimodal integration is all about expanding the ways students learn and compose, which is why the limitations imposed by archetypal styles seemingly don't align – they're restrictive.

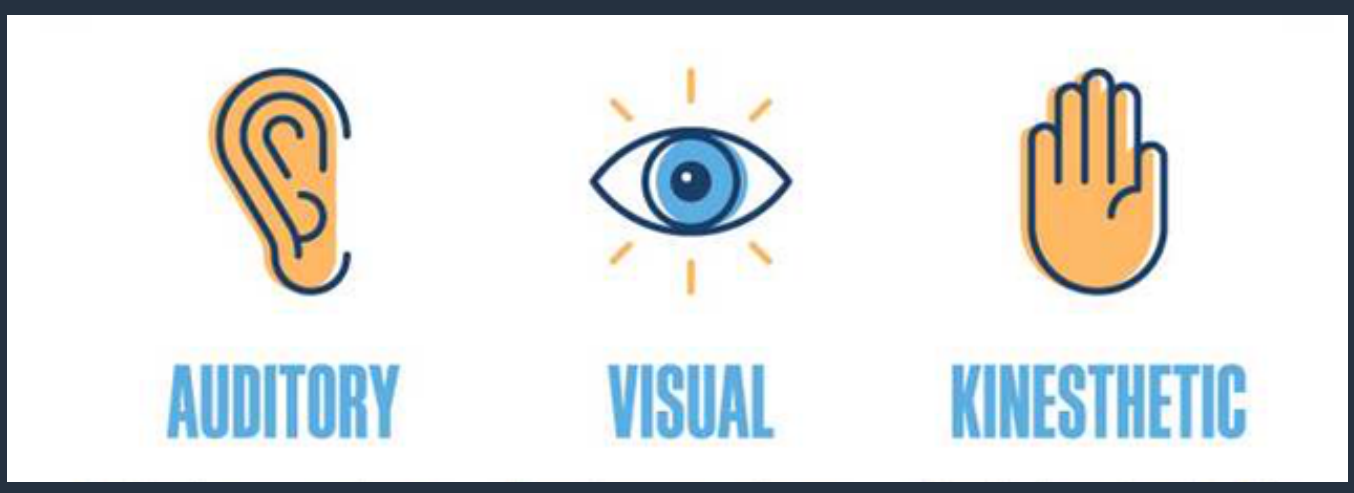
THE INTERSECTION

Explore some examples of how multimodality and learning styles have found themselves intersected.

WORKS CITED

CONCLUSION

Educators who advocate for multimodal learning should be wary of falling back onto models that rigidly define categories of learners in the name of making learning more "accessible."



"WHAT IS YOUR LEARNING STYLE?"

The idea of students having innate, individualized learning styles has long been embedded into instruction practices. This pervasive myth has rooted itself within many disciplines, with systematic reviews reporting that around 89% of educators (Newton & Salvi 3) believe that students have a specified way in which they learn, and that learning must be catered and matched to this style to be effective. The basic principle of learning styles is ultimately an advocation for differentiated instruction. That is, instruction that accommodates for the diverse nature of students within a classroom, providing different means of understanding information. Naturally, because of this, theories of learning styles have been used to validate the need for multimodal integration within classrooms, as it offers different ways of transmuting information. Multimodal learning has proven itself effective for majority of students and has established scholarship outlining its cognitive enhancements (Drachsler & Schneider; Koć-Januchta et al; Massa & Mayer; Sharma & Giannakos). In exploring the myth of the learning style and its intersection with multimodality, revealed are the pitfalls that this intersection entails, giving all the more reason for advocating that multimodal studies strays from neuromythologies.

WHAT IS A LEARNING STYLE?

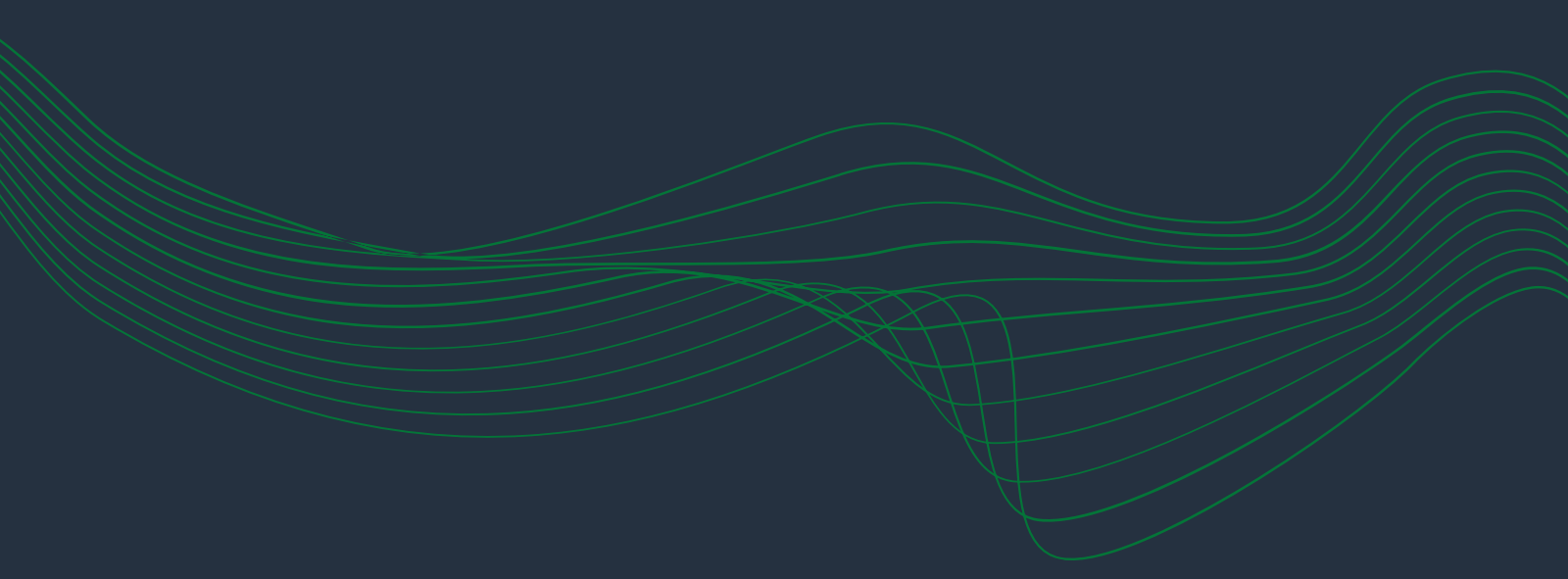
Beyond the broad conceptualization that students are different from one another (which IS true), there is no definite consensus on what a learning style actually is. There are many models that have been constructed that outline the "styles" of learners or the "type" of learner that students are. The VARK model is perhaps the most established and widely known, breaking down learners into visual, auditory, read-write, and kinesthetic categories. The Honey-Mumford divides students into four classifications: activists, reflectors, theorists, and pragmatists. The Felder-Silverman model adjusts the preferences to: sensing, intuitive, visual, verbal active, reflective, sequential, and global (Newton 7). These examples are just some of many, with Coffield et al. reporting that they identified 71 models of learning styles throughout their research (p.2). I chose to elaborate on these specific learning styles as to display just how different they can be, varying in what they base their immutable categories within, whether it be personality type or cognitive preference.

Not only is there no consensus on what the ideal learning style model looks like, there have additionally been no studies published that conclude adjusting instruction to a student's learning style has any significant effect on their learning. A good majority of the existing studies published were not reliable, even under minimal testing criteria such as: internal consistency, test-retest reliability and construct validity (Coffield et al. 35).

		Internal consistency	Test–retest reliability	Construct validity	Predictive validity
1	Jackson	—	—	—	—
2	Riding	×	×	×	×
3	Sternberg	×	×	×	×
4	Dunn and Dunn	×	×	×	✓
5	Gregorc	×	×	×	✓
6	Honey and Mumford	×	✓	×	×
7	Kolb	—	✓	×	×
8	Entwistle	✓	—	✓	×
9	Herrmann	—	✓	✓	—
10	Myers-Briggs	✓	✓	×	×
11	Apter	✓	✓	—	✓
12	Vermunt	✓	✓	✓	×
13	Allinson and Hayes	✓	✓	✓	✓

WHY LEARNING STYLES?

If learning styles have been proven to be a myth time and time again, why do we still cling to them? Likely because the main sentiment that learning style theories build upon is that all learners are different - which is an indisputable fact. Instead of acknowledging the many dimensions of difference that can exist within a learner, ranging from subject interest, background knowledge, and the presence of learning disabilities - we resort to broad categorizations that are easier to adjust to. Instruction can very easily be said to be accessible to a multitude of learners when this acceptability has no clear grounding. Put frankly, learning style models are an easy way out of actually acknowledging and adapting to a range of differences students carry. These differences can be innate, learned, or a combination of the two, but they cannot be categorized as to definitively predict how a learner will respond to given instruction. This simplification can even be dangerous as the reductive nature of learning style models allows for essentialism to seep through, bestowing students with immutable categories that claim to predict how they will best learn. Essentialization gives both students and educators the impression that there is no room for learning outside of their given style, potentially limiting student learning outcomes. Further, learning styles can be used as a false means of accessibility, diversifying the ways of learning as to accommodate for these false archetypes can neglect real, tangible needs for accessibility.



MULTIMODALITY AND LEARNING STYLES

Multimodal integration is all about expanding the ways students learn and compose, which is why the limitations imposed by archetypal styles seemingly don't align - they're restrictive. Although, it's undeniable that the VARK model outlines distinctive modes, giving reason for them to be implemented in a classroom setting. This model seemingly would encourage multiple modes to be utilized when teaching, thus making the classroom a place where multiple modalities are encouraged. Given that this has been the most well-known learning style model, it's almost inevitable that this myth finds itself intersecting with studies in multimodality.

To examine the pitfalls of conflating multimodality and learning styles, let us walk through a fictive narrative. Say a teacher wants to learn more about her new students, thus she gives them a short quiz at the beginning of the semester to get a scope of their learning style. This quiz consists of questions such as these (see fig. 2 & 3):

I have finished a competition or test and I would like some feedback. I would like to have feedback:

- ☐ from somebody who talks it through with me.
- ☐ using a written description of my results.
- ☐ using examples from what I have done.
- ☐ using graphs showing what I achieved.

When learning from the Internet I like:

- ☐ videos showing how to do or make things.
- ☐ audio channels where I can listen to podcasts or interviews.
- ☐ interesting design and visual features.
- ☐ interesting written descriptions, lists and explanations.

When I am learning I:

- ☐ see patterns in things.
- ☐ use examples and applications.
- ☐ like to talk things through.
- ☐ read books, articles and handouts.

2. You are not sure whether a word should be spelled 'dependent' or 'dependant'. I would:
   a. look it up in the dictionary.
   b. see the word in my mind and choose by the way it looks
   c. sound it out in my mind.
   d. write both versions down on paper and choose one.

3. You have just received a copy of your itinerary for a world trip. This is of interest to a friend. I would:
   a. phone her immediately and tell her about it.
   b. send her a copy of the printed itinerary.
   c. show her on a map of the world.
   d. share what I plan to do at each place I visit.

4. You are going to cook something as a special treat for your family. I would:
   a. cook something familiar without the need for instructions.
   b. thumb through the cookbook looking for ideas from the pictures.
   c. refer to a specific cookbook where there is a good recipe.

MULTIMODALITY AND LEARNING STYLES

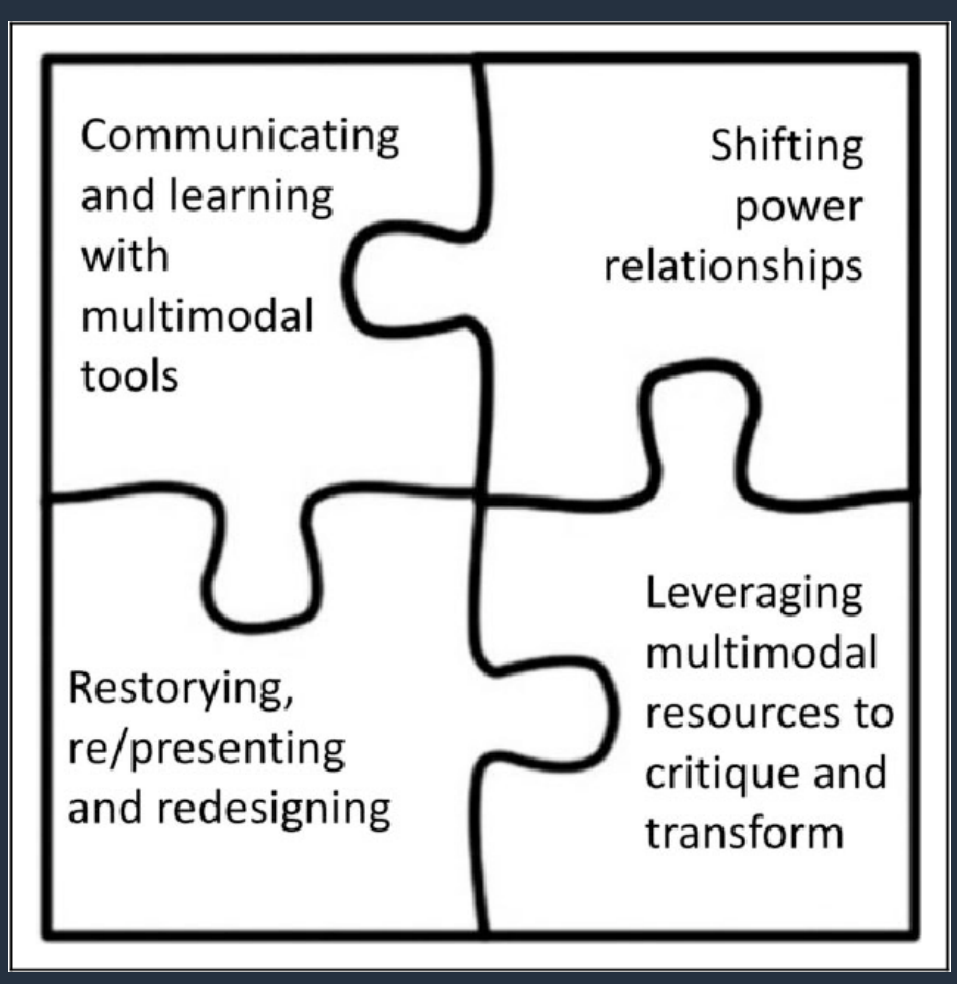
These questions give students time to reflect on the modes by which they learn, and how they prefer to learn. The students submit the quiz and are given a singular learning style - the one that they allegedly learn best with. This learning style is completely subjective to how they understand their own learning practices and based completely on preference. The teacher then takes these results, seeing the wide array of learning styles before her. The students internalize these results, suddenly seeing their means of learning through a singular mode. While the end result is ultimately neutral for the teacher (in that she already knows her students differ from each other, and that she wants to make an effort to diversify her teaching style), the students find themselves reduced to a singular mode of learning, thinking that it is the most optimal way that they learn. Given that studies show that multiple modes of learning prove to be better than one (Koć-Januchta et al; Massa & Mayer), having students reduce themselves to a singular archetype is unnecessarily limiting.

Another way that multimodality and learning style models differ in approach is that these models typically advocate for modes of learning, not for modes of composition. Whereas multimodal studies traditionally argues for the implementation of both. Methods of student output or assessment are typically neglected in the differentiated instruction that accompanies learning style models, with heavy emphasis only on instruction practices. Production remains integral to interacting with multiple modes and acknowledging the privilege given to certain modes.

MULTIMODALITY AND LEARNING STYLES

The term "multimodality" has been co-opted by those who advocate for learning styles, which in turn, dilutes its meaning. Student's could proclaim they are "multimodal" learners, which would denote that they learn best when two or more "sensory styles" are utilized. This perhaps disregards the depth that multimodal learning affords students and educators. Student's cannot merely "be multimodal" in a categorical sense, but they can certainly engage with, respond to, and utilize multimodality as a means to better their retention and execution of knowledge. We make meaning in a variety of ways and we communicate this meaning in a variety of ways. Multimodality serves to explore the different ways we make meaning, breaking down the "strict 'divisions of labor'" (O'Halloran et al. 3) that disciplines take on in their approach to this meaning making.

While the advocation for learning styles can indeed push for these differentiated semiotic modes of meaning, we must look beyond it. Shifting towards a multimodal perspective would instead look towards building and analyzing an inventory of modes. This would embolden students explore the array of avenues in interacting with instruction and producing content to demonstrate their knowledge.



THE INTERSECTION

"A multimodality or multisensory approach to teaching and learning is critical for teachers to best meet the needs of all students and their various learning styles" (p.143)

Borzello, Keri. "The Benefits of a Multimodality Approach to Teaching and Learning." *New Perspectives in Science Education*, edited by Pixel, Libreria Universitaria, 2018, pp. 141-145.

"This work aims to examine the 'Multimodal' learning style, which refers to the perceptual learning preference that includes all four perceptual learning modes at the same level (i.e. visual, auditory, tactile and kinaesthetic)" (p.24)

Gargallo-Camarillas, Noelia. "Multimodal and Perceptual Learning Styles: Their Effect on Students' Motivation in a Digital Environment." The EuroCALL Review, vol. 28, no. 2, 2020, pp. 23-38., https://doi.org/10.4995/eurocall.2020.12758.

"The increasing use of multimedia in teaching has provided many opportunities to present multiple representations of content (text, video, audio, images, interactive elements) to cater more effectively to the different learning styles of an increasingly diverse student body." (p.852)

Sankey, Michael, et al. "Engaging Students through Multimodal Learning Environments: The Journey Continues." Curriculum, Technology, and Advancement , 2010.

CONCLUSION

It's easy to fall back on learning style models as to advocate for multimodal learning and composing, especially now that multimodal recognition has increased due to a rise in technological utilization within classrooms. Multimodality has scholarship of its own and a long history of discourse that solidifies its presence in the classroom, which is why rooting its integration in this myth is not necessary or beneficial. Educators who advocate for multimodal learning should be wary of falling back onto models that rigidly define categories of learners in the name of making learning more "accessible." Implementing multimodality should always be about expansion: expansion of modes, expansion of means of learning, expansion of production - the restrictive nature of these models is the antithesis of what multimodal scholarship postulates.

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