

# VerbiCube—A New 3D Tool to Teach and Learn English Tenses

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This paper is about a new class of tools for teaching and learning verbal grammar of the English language. These tools perform two major functions. They organise/structure the learning material and provide means of efficient navigation inside it. To separate this new class of tools from existing teaching aids a new term introduced—“navigizer” (navigator + organiser). A following description of the VerbiCube as a 3D navigizer of English verbal grammar details its design and functions. It also gives examples of its practical application in real teaching and learning situations.

**Keywords:** verbal grammar, English tenses, English as a Second Language (ESL), navigizer, low-res VerbiCube, high-res VerbiCube, verbal transformer, animated VerbiCube, verbal GPS, a 3D map of verbal grammar, a one-glance reference, high-precision verbal grammar (HPVG)

## Introduction

Verb is a power-core and the most complex part of any language. It is particularly true for the English language with its system of numerous tenses. Mastering this system is not an easy task for students who learn English as a Second Language (ESL). It is especially true for ESL students from the “beginner” to “low intermediate” levels. Those students have considerable difficulties trying to sort out numerous tenses and verbal forms. What may look for the outside viewer as a “diligent learning”, from the inside experience of a student, is in fact a tedious quest filled with despair and frustration. Having had this problem myself as a student many years ago and experiencing it during my teaching career, I decided to do something about it.

## Research and Development

There is a well-known table of English tenses like the one given in a book of Betty S. Azar *Understanding and Using English Grammar*.

# Verb tense chart based on Azar

<b>Simple Present</b> <i>I <b>study</b> every day</i> 	<b>Present Continuous</b> <i>I <b>am studying</b> right now</i> 	<b>Present Perfect</b> <i>I <b>have studied</b> Chapter 2</i> 	<b>Present Perfect Continuous</b> <i>I <b>have been studying</b> for 2 hours</i> 
<b>Simple Past</b> <i>I <b>studied</b> last night</i> 	<b>Past Continuous</b> <i>I <b>was studying</b> when you called</i> 	<b>Past Perfect</b> <i>I <b>had studied</b> chemistry before I began to study maths</i> 	<b>Past Perfect Continuous</b> <i>I <b>had been studying</b> for 2 hours when they came</i> 
<b>Simple Future</b> <i>I <b>will study</b> tomorrow</i> 	<b>Future Continuous</b> <i>I <b>will be studying</b> when you arrive</i> 	<b>Future Perfect</b> <i>I <b>will have finished</b> by the time you arrive</i> 	<b>Future Perfect Continuous</b> <i>I <b>will have been studying</b> for 2 hours by the time you arrive</i> 

Chart adapted from Betty S.Azar. Understanding and Using English Grammar, Prentice Hall, Inc. Englewood Cliffs, NJ, 1981, pages 74-77

Figure 1. Tenses table.

Taking this table as a model, I built an enhanced version. It served as an interactive organiser of English tenses helping students navigate and quickly find what they needed.

	Past		Present		Future		Futr-in-the-Past	
SIMPLE	<b>R</b>	<b>I</b>	<b>do</b>		<b>will</b>		<b>would</b>	
	V-ed	V-2	V / Vs		will+V		would+V	
CONT	was / were +V-ing		am / is / are +V-ing		will be +V-ing		would be +V-ing	
PERF	<b>R</b>	<b>I</b>	<b>R</b>	<b>I</b>	<b>R</b>	<b>I</b>	<b>R</b>	<b>I</b>
	had + V-ed	had + V3	have / has + V-ed	have / has + V3	will have + V-ed	will have + V3	would have + V-ed	would have + V3
PER. CONT	had been +V-ing		have / has been +V-ing		will have been +V-ing		would have been +V-ing	
	A C T I V E				P A S S I V E			



Figure 2. Interactive 2D table.

However, most of my students still complained about “too many tables”. Trying to find a solution to this problem I came to the idea of using a mnemonic method called “method of loci”. I took a cube and placed three major verbal groups of the English language on its surfaces. I called this new teaching tool a VerbiCube and this particular design a low-resolution VerbiCube (low-res VerbiCube).



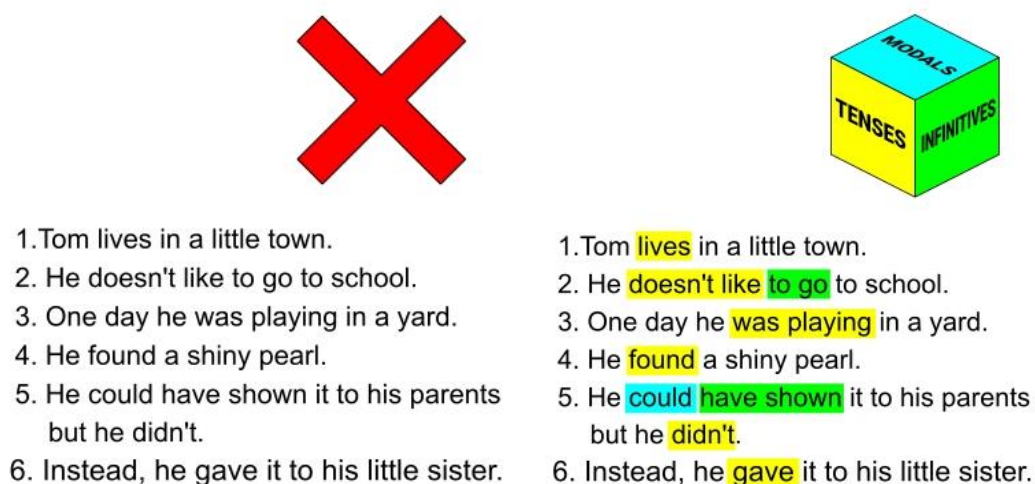


Figure 5. Color-coding.

Picture on the left (with red cross) shows the uncolored text. This is what students usually have in their textbooks. It takes a lot of effort and memory for a beginner to recognize verbal structures in the uncolored text and understand their meaning. Picture on the right (with low-res VerbiCube), however, gives a student immediate understanding of the verbal structures in a sentence and their functionality. It is particularly helpful for a student to have a low-res VerbiCube in sight together with the colored text. It serves as a “one-glance reference” for recognising key verbal patterns.

### Case #2. High-Precision Verbal Grammar

Hi-res VerbiCube is a detailed 3D map of English verbal grammar. As such, it serves as a Verbal Grammar Positioning System (Verbal GPS, V-GPS) for high-precision navigation in numerous English tenses and verbal forms.



Figure 6. Verbal GPS.

Having a colour-coded text, I linked each coloured part of the text to its particular place on the surface of the hi-res VerbiCube.

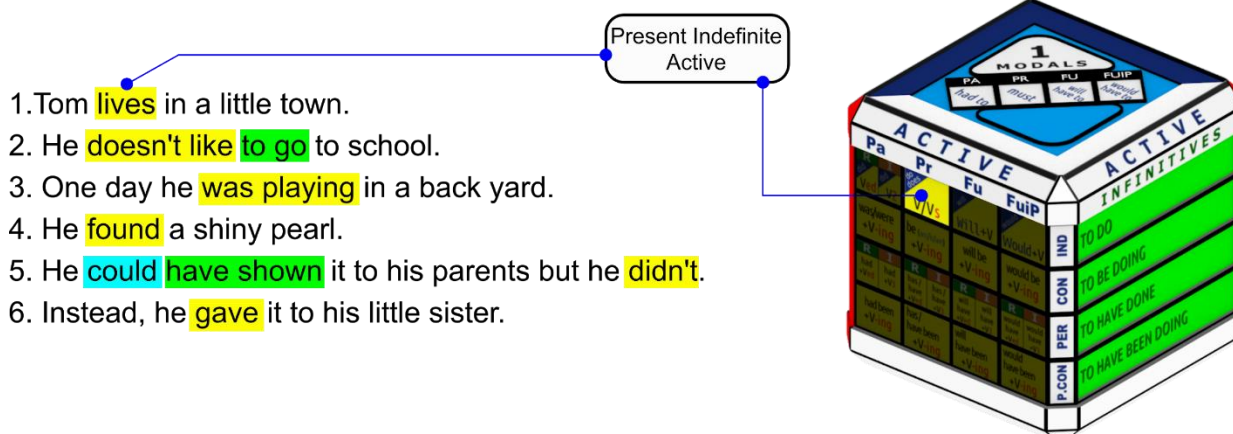


Figure 7. Text-to-cube linking.

It drove grammar teaching/learning to a whole new level in precision and understanding by a student. Now each verbal piece is not just an abstract notion. It is a tangible place on the cube where a student can put a finger. This is how it works in a real teaching situation in class.



YouTube (USA/EU)   RuTube (China+)

Figure 8. Speech-to-cube drill.

### Case #3. A Verbal Transformer

Working with my VerbiCube, I also found it helpful in teaching traditionally difficult areas of English grammar (e.g. difference between Simple Past and Past Perfect, explaining details of the Present Perfect tense etc.). To visualise those grammar abstractions I designed a transformer version of the VerbiCube.



Figure 9. Verbal transformer.



#### Case #4. Animated VerbiCube to Teach Sequence of Tenses

Sequence of tenses is another difficult topic for teaching due to numerous transition rules. I designed a special animated version of the VerbiCube to visualise those rules. This format allows students to quickly grasp the idea of “tenses shift” and save a lot of time in studies.



Figure 10. Animated VerbiCube.

#### Conclusion

Born from practical teaching needs, the VerbiCube navigizier turned out to be a helpful tool. It has 3-in-1 functionality and I broadly use it in my teaching practice. Combined with other teaching tools and solutions, it helps to reduce verbal grammar teaching/learning time, decrease my speaking burden as a teacher, and engage students into meaningful interaction in class. I have ideas for further development of this project. This is why I got a US patent #10,902,740 for this invention on Jan. 26, 2021.

# 3-in-1



**"Swiss-army knife"**  
universal container of all verbal forms



**"A globe"**  
3D organizer of learning material



**"GPS"**  
a high-precision verbal Grammar Positioning System (Verbal GPS)

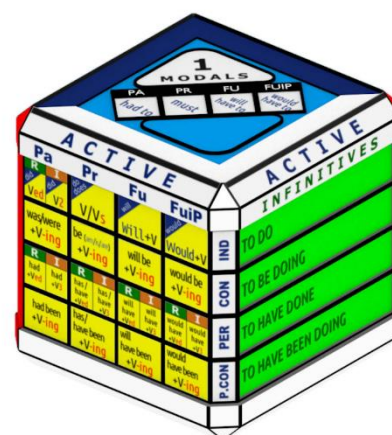


Figure 10. Summary.

#### References

- Azar, B. S. (1981). *Understanding and using English grammar*. Englewood Cliffs, NJ: Prentice Hall, Inc.
- Wikipedia. (2024, July 7). Method of loci. Retrieved from [https://en.wikipedia.org/wiki/Method\\_of\\_loci](https://en.wikipedia.org/wiki/Method_of_loci)