

Analysis of Patterns in Time for Evaluating Online Instruction

Theodore W. Frick

September 2024, Brill

DOI: 10.1163/9789004702813_020

Measuring How Well Online Instruction Works



In partnership with:



Photo by Frank Rolando Romero on Unsplash

What is it about?

Analysis of Patterns in Time (APT) is a research methodology that uses observational data to evaluate the effectiveness of online instruction. APT is a practical approach to learning analytics that counts patterns of instruction and learning events. APT tells us how well our online instruction is working by connecting instructional strategies with successful student learning outcomes.

I illustrate how to do APT with a real-world example. Results show that, when

students select learning activities designed with First Principles of Instruction, they are about 4.6 times more likely to pass a certification test that measures mastery of the learning objective. This empirical finding is based on 8,732 students worldwide who were observed during online instruction. I demonstrate how Google Analytics can be leveraged to do the counting of online instructional and learning events without compromising student privacy. I show how these counts are used to estimate probabilities of successful learning outcomes.

Why is it important?

When we design instruction or teach, we need to know how well our instruction is working. During in-person learning, we can observe our students while they learn, ask them questions, and answer their questions directly or demonstrate how to do something. However, when students attempt to learn during online instruction, how can we observe what they are doing and how well they are learning?

In this chapter, I provide a real-world example of how we can observe student interaction with online instruction and measure student success. The method of doing this is called Analysis of Patterns in Time.

Perspectives



Theodore Frick

Indiana University Bloomington

I developed Analysis of Patterns in Time (APT) nearly 50 years ago. At that time, computers were not powerful enough nor ubiquitous, and so it took a lot of work and creativity to do APT studies. In many ways, this chapter illustrates the culmination of my lifetime's work. APT is no longer a pipe dream. We can now do APT with relatively little effort. Modern cloud computing through the Web makes this much more feasible. I hope that readers will appreciate the simplicity, practicality, and value of this approach when evaluating online instructional effectiveness.

[Read Publication](https://link.growkudos.com/1eldsyzcxkw)

<https://link.growkudos.com/1eldsyzcxkw>

The following have contributed to this page: Theodore Frick



PDF generated on 06-Oct-2024
Create your own PDF summaries at www.growkudos.com.