

## METHODS OF STUDING THE LAWS OF FUNCTIONING OF AIR TRANSPORT SYSTEMS

**Maslak O.A.**

*National Aviation University, Kyiv*

*Scientific advisor – Shevchenko Y.V., Ph.D., Associate prof.*

**Key words:** transport system, airports, laws of functioning

Air transport is an important enabler to achieving economic growth and development. Air transport facilitates integration into the global economy and provides vital connectivity on a national, regional, and international scale. It helps generate trade, promote tourism, and create employment opportunities.

Air transport is one of the fastest modes of public transport which connects international boundaries. Air transport allows people from different countries to cross international boundaries and travel other countries for personal, business, medical, and tourism purposes. Although, air transport provides the fastest means by saving the time of journey, another aspect of air transport is the facilities and comfort level of the passengers.

The air transportation system (ATS) provides many examples of system of systems (SoS). Airlines use multiple aircraft and coordinated crews in an effort to make profit while meeting passenger travel demand. Some theoretical considerations about modeling and simulation (M&S) of SoSs appear, including lexicon and taxonomy to describe or categorize different types of SoSs. A discussion of some methodologies used for air transportation SoS follows the theoretical considerations. Highlights of work related to SoSs in air transportation show the potential to use M&S methodologies in the air transportation domain.

The air transport system considers route structure options in terms of operational impacts and describes the context and boundaries of the industry – the natural, regulatory and operational environments.

The air transport system generally includes airports, ATC (air traffic control) system, and airlines. The airports represent the ground part of the system's infrastructure handling the aircraft operated by different airlines transporting passengers and freight/cargo shipments. The organized and controlled airspace between airports represents the air part of the system's infrastructure. The ATC system provides guidance to aircraft while flying through the controlled airspace between airports and during their ground movements at the airports themselves. These aircraft are operated by airlines generally categorized into two classes: those, which primary transport passengers and to the limited extent cargo shipments; and those, which exclusively transport cargo shipments.

There are some methods of studying the laws of functioning of air transport systems.

### 1. The SQ3R Method

The SQ3R method is a reading comprehension technique that helps students identify important facts and retain information within their textbook. SQ3R (or SQRRR) is an acronym that stands for the five steps of the reading comprehension process.

## 2. Retrieval Practice<sup>1</sup>

Retrieval practice is based on the concept of remembering at a later time. Recalling an answer to a question improves learning more than looking for the answer in your textbook. And, remembering and writing down the answer to a flashcard is a lot more effective than thinking you know the answer and flipping the card over early.

## 3. Spaced Practice

Spaced practice (also known as “distributed practice”) encourages students to study over a longer period of time instead of cramming the night before. When our brains almost forget something, they work harder to recall that information.

## 4. The PQ4R Method

This method takes an active approach to learning that improves memorization and understanding of the topic. Similar to the SQ3R method above, PQ4R is an acronym that stands for the six steps in the process.

## 5. The Feynman Technique

The Feynman Technique is an efficient method of learning a concept quickly by explaining it in plain and simple terms. It’s based on the idea, “If you want to understand something well, try to explain it simply.”

## 6. Leitner System<sup>2</sup>

The Leitner System is a learning technique based on flashcards. Ideally, you keep your cards in several different boxes to track when you need to study each set. Every card starts in Box 1. If you get a card right, you move it to the next box. If you get a card wrong, you either move it down a box or keep it in Box 1 (if it’s already there).

## 7. Color-Coded Notes

Messy notes can make it hard to recall the important points of a lecture. Writing in color is a dynamic way to organize the information you’re learning. It also helps you review and prioritize the most important ideas.

## 8. Mind Mapping<sup>3</sup>

If you’re a visual learner, try mind mapping, a technique that allows you to visually organize information in a diagram. First, you write a word in the center of a blank page. From there, you write major ideas and keywords and connect them directly to the central concept. Other related ideas will continue to branch out.

## 9. Exercise Before Studying

Not only does exercise fight fatigue, but it can also increase energy levels. If you’re struggling to find the motivation to study, consider adding an exercise routine to your day. It doesn’t have to be a full hour at the gym. It can be a 20- minute workout at home or a brisk walk around your neighborhood.

### **Reference list:**

1. Pooja K.A., Ph.D. Powerful Teaching: Unleash the Science of Learning / Pooja K.A., Ph. D., Patrice M. Bain, Ed.S / 2019. – 18-27 p.

2. Leitner system. URL: <https://jessewhelan.medium.com/using-the-leitner-system-to-improve-your-study-d5edafae7f0>

3. Mind maps. URL: [https://www.mindtools.com/newISS\\_01.htm](https://www.mindtools.com/newISS_01.htm)