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VERTICAL CONTENT FEEDS AND COGNITIVE ADAPTATION

People consume information very fast due to algorithms. Many years ago, people used internet to find something specific, but today, the internet finds us. When we walk on the street, sit in a bus, or even listen to a lecture, we always look in our phones. Platforms like YouTube Shorts, TikTok, Instagram Reels are very popular because they use very short videos to catch our attention. This massive flow of fast information is changing how our brain works. It is very important to study this problem today, because modern folks spend many hours using their phones every day, and it's changing their life.

Firstly, we should understand why people like short videos so much. It is simple biology. Research shows that algorithms work like slot machines in casino [3]. When you open TikTok, you don't know what you will see next. Maybe it will be a cute animal, maybe a stupid dance, or maybe a boring advert. This unpredictability is called "variable rewards". You don't know what is next, and the brain waits for a good video to release a lot of dopamine. Adam Alter says that modern technology is designed to be addictive [1]. For example, in a book, you have chapters, in a movie, you have an ending, but algorithmic feeds have no "stop", so you can scroll forever. Because of this endless loop, it is very hard to put the phone down and start doing homework.

Also, we have a big problem with neuroplasticity, which is the brain's ability to change its structure based on what we do every day. Nicholas Carr explains that our brain is like a muscle [2] and if we use it for fast and short things, it adapts. It gets very good at scanning short information, but it becomes very bad at slow things. When a person opens a real book or a long article, there are no funny pictures or music, so the person's brain thinks it is boring; this way, we lose our ability for "deep consuming".

People start to just glance through text, unable to understand complicated ideas because of a big "cognitive load".

Additionally, we have another big problem - multitasking. Many people think they are very good at multitasking. For example, a teenager writing an essay, watching a YouTube video, and answering messages in Telegram at the same time. He thinks they do three things fast, but studies say it is a lie. A famous study by Ophir, Nass, and Wagner explain that people doing many things at once are actually worse at focusing [4]. The brain cannot do three complicated things together; namely, it just switches very fast between them, but every switch takes a lot of mental energy. After one hour of this "multitasking," the person is very tired, but the task is still not completed, and actual cognitive control is getting weaker.

Lastly, we should remember about the business side of this problem, which is called "Surveillance Capitalism." Shoshana Zuboff explains that big apps like TikTok keep our private data to predict and change our behavior [5]. So the algorithms want to capture our attention because our attention is money. While spending time in the app, we watch advertisements. Furthermore, the algorithms collect data such as how many seconds you watch a cat video, what you "like", and who you share it with. Therefore, they are not designed for our education or happiness, but for profit.

Because of all these factors, students have real conflicts in real life. A traditional university requires long concentration, where a standard lecture is 80 or 90 minutes, but platforms like TikTok train our brains to wait for a new emotional stimulus every 15 seconds. Thus, it creates a big gap between how students naturally process information and how the standard education system works.

Algorithmic content feeds are not just bad toys - they are breaking our brains. On the one hand, we are better at scanning information quickly, but on the other hand, we are losing our ability for deep thinking and long-time attention. This is a bad thing for people because they cannot stop using the internet, but we need to find a balance. Students must learn to turn off notifications and put their phones in another room when they do complicated work. Moreover, the education system needs to accept this new

reality and use more interactive formats to help students learn without losing their deep thinking skills.

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