

# CSC290: Critical Thinking Worksheet (Page 1)

Read the following excerpt and answer the questions.

I think that memorizing multiplication tables is rubbish. When I say this, it is usually met with general disagreement and in some cases, complete contempt. Typical responses included: (1) There is no other/better way to teach tables, (2) Memorizing tables did me no harm, (3) call me old fashioned but...

So I tried an experiment with a group of primary school teachers. If they thought memorizing tables is such a good thing, I challenged them to memorize the following sentences.

Fred Davidson lives in Aaron Zion Avenue  
Greg Fredson lives in Aaron Clare Avenue  
Isaac Davidson lives in Aaron Clare Avenue  
Fred Davidson works in Bill Davidson Avenue  
...

It was interesting to see how many people accepted the challenge. The responses of the teachers that tried it and failed to memorize them was the following: I got muddled / scrambled / confused, my head got exhausted, I had no motivation / interest to memorize them, I expected them to be easy to memorize but they weren't, they weren't important to me, I'm too busy.

It was also interesting that many teachers who were in disagreement with me would not do the challenge as they didn't see the relevance of memorizing a load of sentences. In fact the majority of the dissenters would not even attempt to take part!

So, what was the point of memorizing these seemingly random sentences? Before the reveal, I'd like to compare how memorizing tables is very similar to having to memorize those sentences.

When you give children tables, many of them will experience feelings like those expressed by respondents, being muddled, confused, seeing no point, no motivation, etc.

1. What is the claim?

2. Summarize the author's arguments. Are the arguments conceptual or empirical?

3. Is the claim warranted?

4. What fallacies, if any, did the author commit?

## CSC290: Critical Thinking Worksheet (Page 2)

Read the following excerpt from a recent CNBC article titled *Tech's ultimate success: Software developers are now more valuable to companies than money*, and answer the questions.

As our global economy increasingly comes to run on technology-enabled rails and every company becomes a tech company, demand for high-quality software engineers is at an all-time high. A recent study from **Stripe and Harris Poll** (available at <https://stripe.com/files/reports/the-developer-coefficient.pdf>) found that 61 percent of C-suite executives believe access to developer talent is a threat to the success of their business. Perhaps more surprisingly — as we mark a decade after the financial crisis — this threat was even ranked above capital constraints.

1. What questions would you ask about the research?

2. Two of the survey questions, and the percentage of executives responding positively to each choice, are shown below. What new questions would you raise about this research?

How much of a constraint are the following items to your company's growth? (moderate/major)

- 55% Access to talent
- 54% Regulation
- 53% Access to software engineers
- 52% Talent management
- 52% Access to capital

How threatening are the following factors to the success of your business? (somewhat/very)

- 66% Security / data breach
- 62% Increased regulation
- 62% Disruption from tech industry
- 61% Access to developer talent
- 60% Growing competition from China

3. Stripe is a technology company that processes online payments for other companies. Why might Stripe want to fund this study? (Are there any conflict of interest?)