

# Introduction to Critical Thinking

55F152 - Academic Writing and Defending



EVROPSKÁ UNIE  
Evropské strukturální a investiční fondy  
Operační program Výzkum, vývoj a vzdělávání



MINISTERSTVO ŠKOLSTVÍ,  
MLÁDEŽE A TĚLOVÝCHOVY

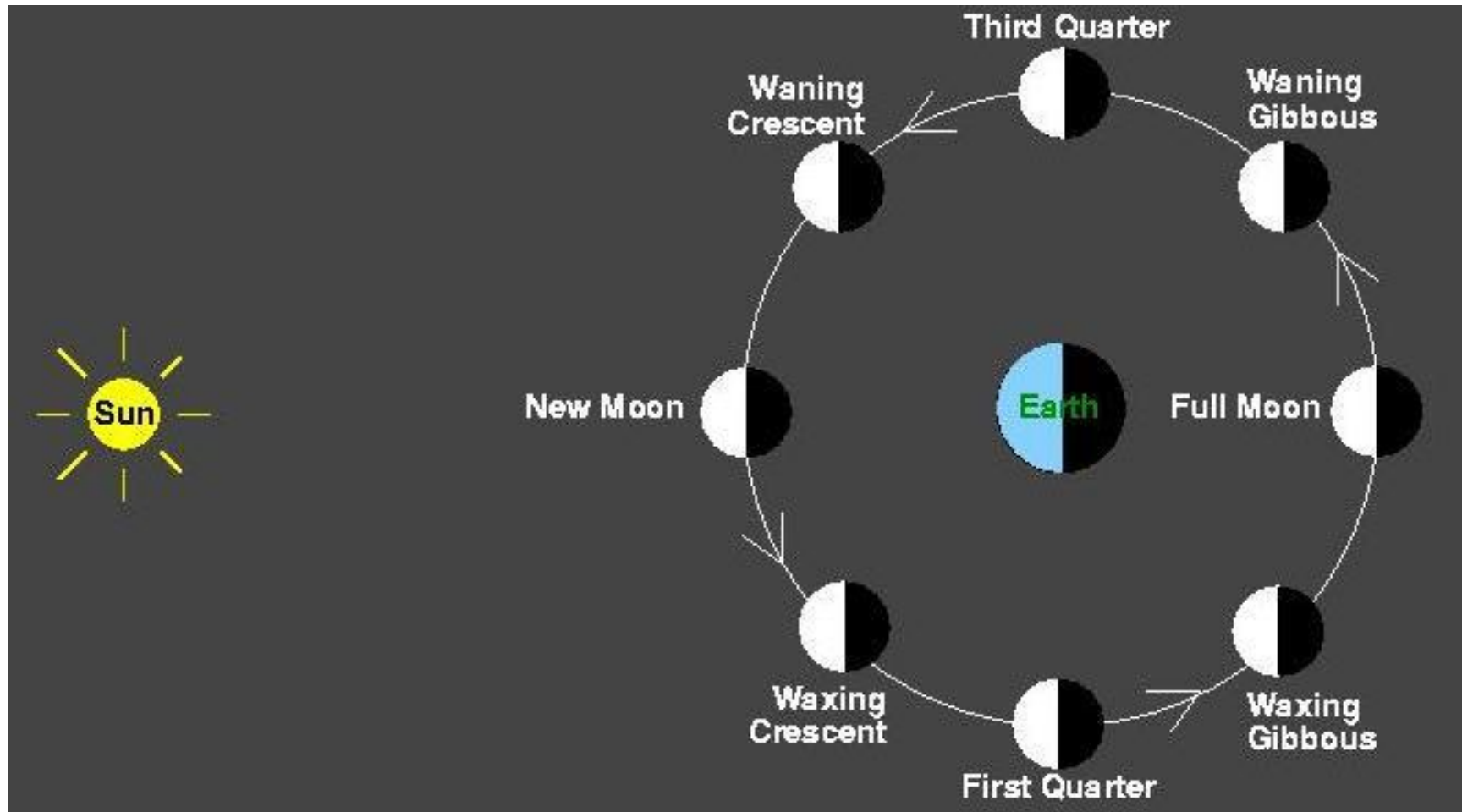


## The problem

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- When we watch the Moon, for the most of the month it is partly in shadow of an object. We see whole Moon only on full moon.
- What is the object that casts shadow on the Moon?

There is no object that casts shadow on the Moon. The question itself is misleading. Only one half of the Moon is illuminated by the Sun.



THE NEW YORK TIMES BESTSELLER

THINKING,  
FAST AND SLOW



DANIEL  
KAHNEMAN

WINNER OF THE NOBEL PRIZE IN ECONOMICS

"[A] masterpiece . . . This is one of the greatest and most engaging collections of insights into the human mind I have read." —WILLIAM EASTERLY, *Financial Times*

# Think slow or fast?

Daniel Kahneman: Thinking,  
Fast and Slow  
(2002 Nobel Memorial Prize  
in Economic Sciences)



When Sultaana Freeman, an American Muslim woman in Florida, first applied for a driver's license, she refused on religious grounds to unveil her face for the photograph that Florida requires. She was allowed to remain veiled for the photo, with only her eyes showing.

## Case-study



Probably in a response to the terrorist attacks of September 11, 2001, she was informed in 2002 that her license would be revoked if she refused to allow the Department of Motor Vehicles to photograph her face.

Case-study



# Case-study



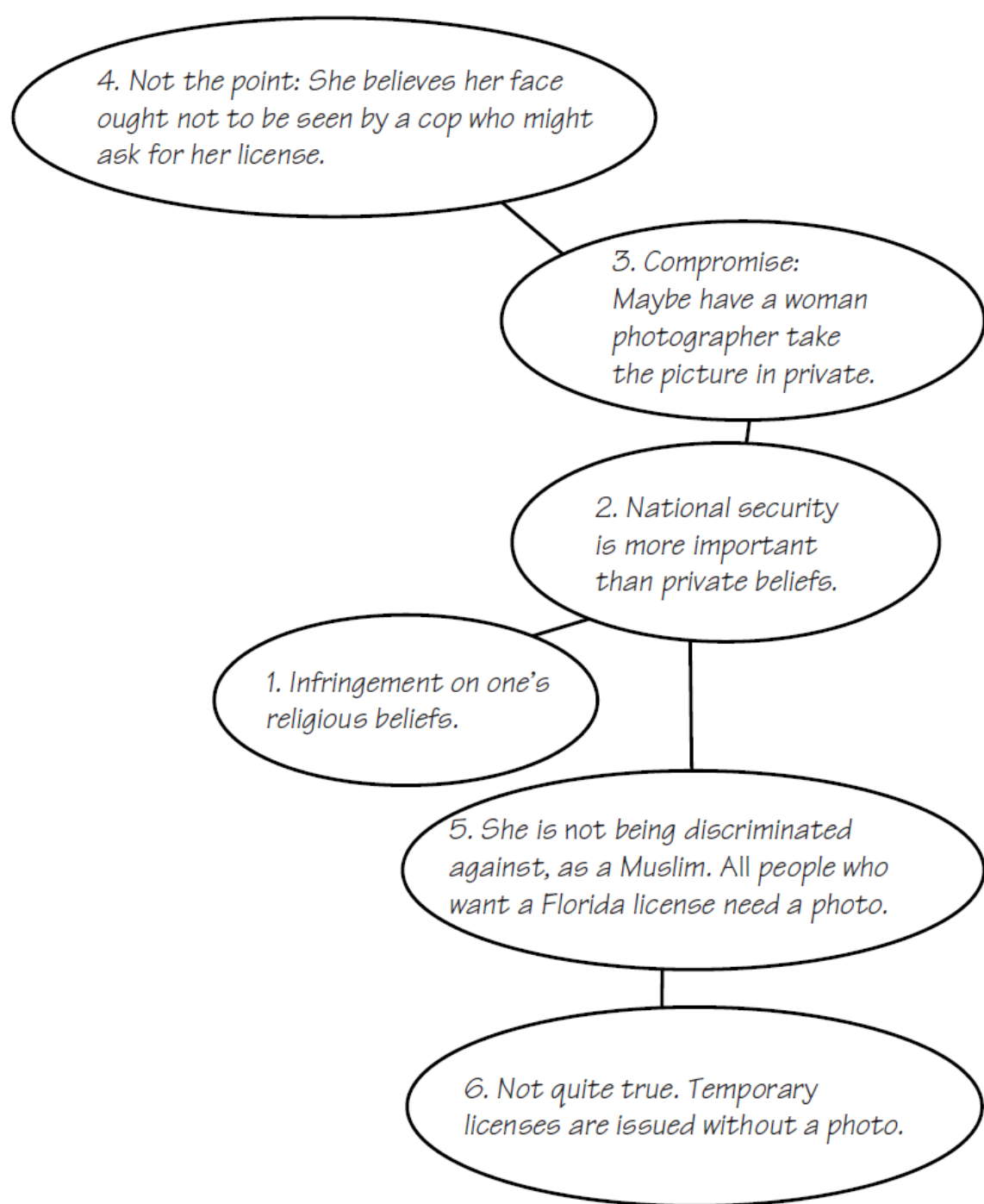
She sued the state of Florida, saying that unveiling would violate her Islamic beliefs. “I’m fighting for the principle and the religious freedom of all people in the country,” she said. “It’s not about me.”

# Clustering

Start with phrase summarizing the basic issue (1)

Jott down what must be the most obvious justification for demanding the picture (2)

Clustering is based on associations.



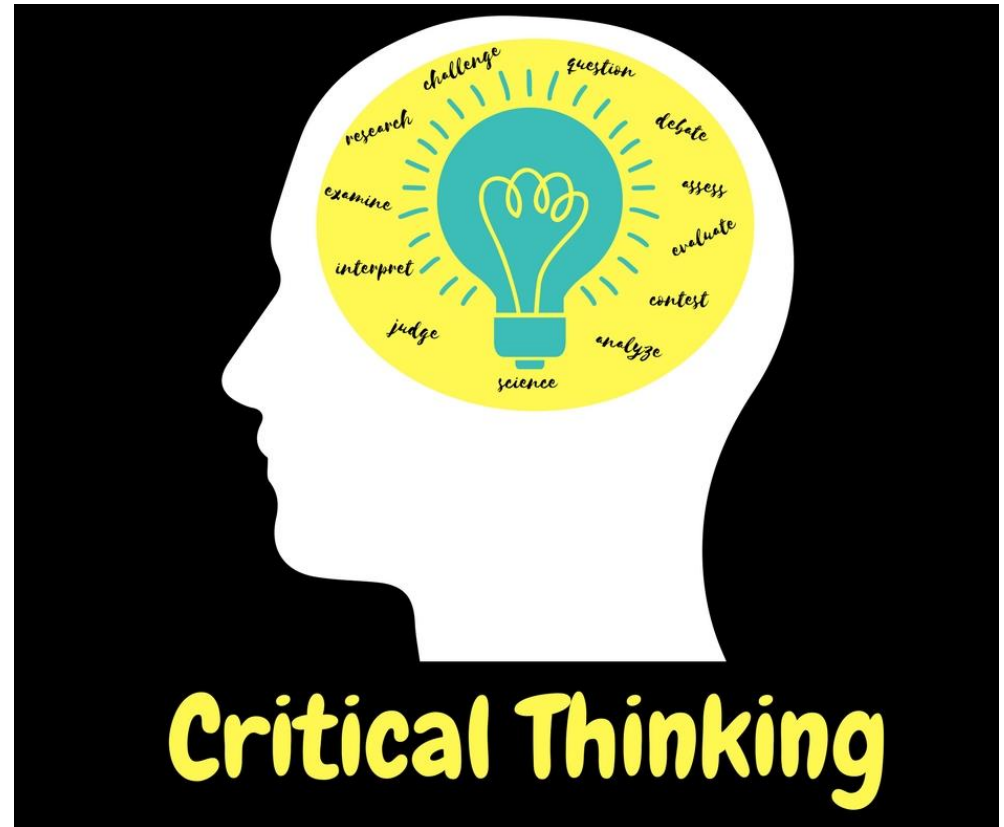


# Clustering

Early in the process of jotting down your ideas on a topic, stop to ask yourself, “What might reasonably be offered as an **objection** to my view?”

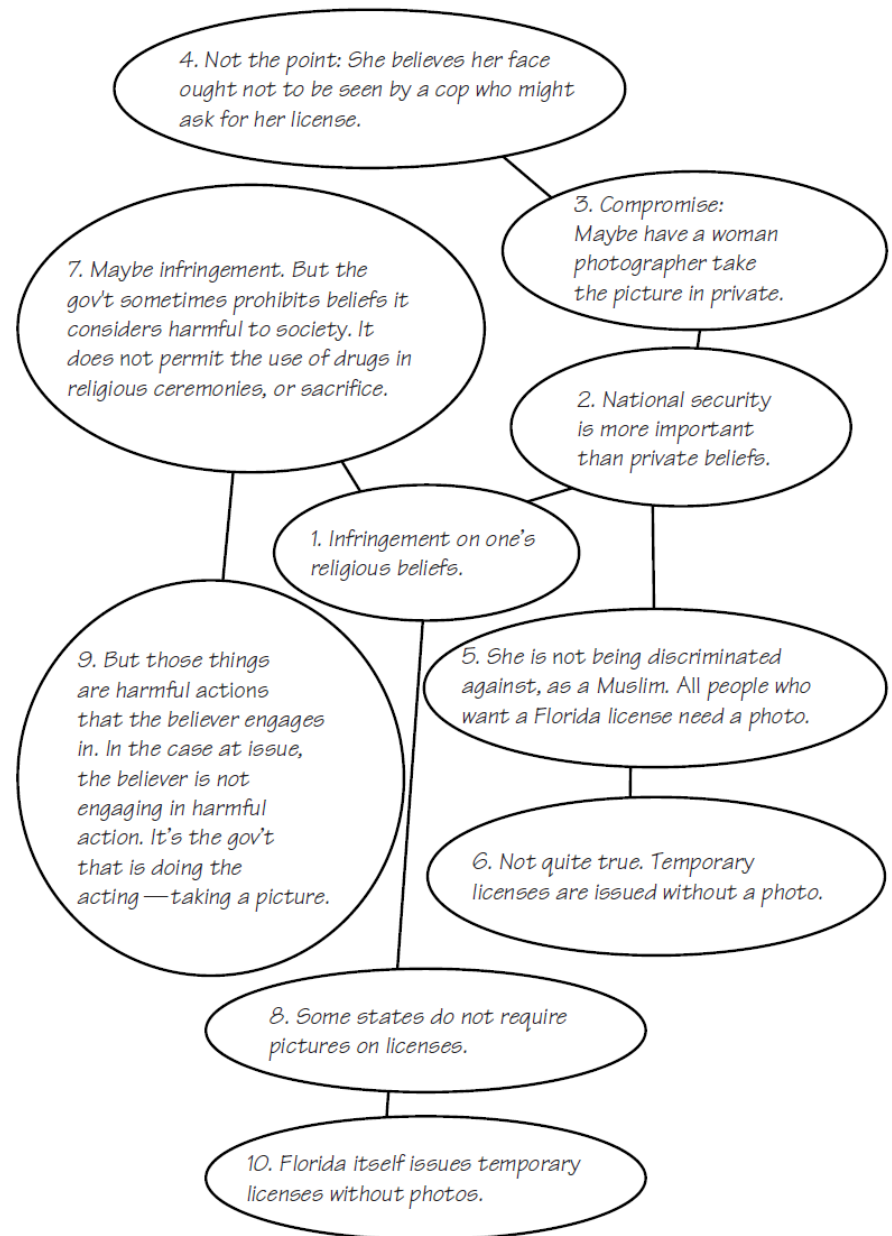
If we are discussing an argument, we must always ask:

- What can be said **for** the proposition?
- What can be said **against** it?



# Clustering

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# The case outcome



- Judge ruled against the plaintiff, explaining that “the State has always had a compelling interest in promoting public safety. That interest is served by having the means to accurately and swiftly determine identities in given circumstances.”
- Entire decision is online: <http://news.findlaw.com/cnn/docs/religion/frmnfl60603opn.pdf>

# Critical thinking requires

**Imagination** - grasping a perspective other than our own and considering the possible consequences of positions (very different from daydreaming, an activity of unchecked fantasy).

**Analysis** - finding the parts of the problem and then separating them, trying to see how things fit together.

**Evaluation** - judging the merit of our claims and assumptions and the weight of the evidence in their favor (vs. *prejudice*).

# Case-study

- Many colleges and universities invite students to evaluate the courses they take, usually by filling out a **questionnaire**. Customarily the evaluations are made available to instructors after grades have been handed in.
- At Tufts University, for instance, students are invited to write about each of their courses and also to respond to specific questions by indicating a **rating** that ranges from 5 to 1 (5 excellent, 4 above average, 3 average, 2 below average, 1 poor; NA not applicable).

# Case- study

Among the eleven questions about the **instructor**, students are asked to rate “clarity of presentation” and “tolerance of alternative views”.

Among the three questions about the **course**, students are asked to rate “overall organization.”

What is the point of such evaluations?

Might there be arguments against using questionnaires illustrating negative aspects to their use?



# Visualizing Pros and Cons

	<b>Benefits of evaluations</b>	<b>Arguments against evaluations</b>
Instructors	Learn how they may improve their teaching	May be reluctant to give low grades because of fear of student retaliation
Students	Will benefit in the future because the instructor will do a better job	Are not always qualified to give fair evaluations
Administrators	Receive additional information to help them make decision about promotion, the award of tenure, or salary increases	May rely too heavily on evaluations as evidence of a course's merit

# Case-study



A law passed in West Virginia in 1989 provides that although students may drop out of school at the age of sixteen, no dropout younger than eighteen can hold a driver's license.

# Case-study



Is it fair?



What is its purpose?



Is it likely to accomplish its purpose?



Might it unintentionally cause some harm?



If so, can we weigh the potential harm against the potential good?

<b>Definition</b>	What is it?	"The West Virginia law defines a high-school dropout as ..."
<b>Comparison</b>	What is it like or unlike?	"Compared with the national rate of teenagers involved in fatal accidents, teenagers from West Virginia..."
<b>Relationship</b>	What caused it and what it will cause?	"The chief cause of teenage fatal driving accidents is alcohol. Admittedly, there are no statistics on whether high school dropouts have a higher rate of alcoholism than teenagers who remain in school, but nevertheless ... "
<b>Testimony</b>	What is said about it, for instance, by experts?	"Judge Smith, in sentencing the youth, said that in all of his long experience ..."

# A CHECKLIST FOR CRITICAL THINKING - Attitudes

Does my thinking show imaginative open-mindedness and intellectual curiosity?

Am I willing to examine my assumptions?

Am I willing to entertain new ideas - both those that I encounter while reading and those that come to mind while writing?

Am I willing to exert myself-for instance, to do research-to acquire information and to evaluate evidence?

# A CHECKLIST FOR CRITICAL THINKING - Skills

Can I summarize an argument accurately?

Can I evaluate assumptions, evidence, and inferences?

Can I present my ideas effectively-for instance, by organizing and by writing in a manner appropriate to my imagined audience?



# Thank you for your attention

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