

Lesson Plan

NEUROHEADWAY

Neuroscience Into Education

Lesson Plan

1. **Follow through** the slides of PowerPoint presentation: *Rationality* (about 40 min.)
2. **Incite discussion** between students and between students and teacher. Examples and questions provided in the presentation serve this purpose.
 - Try to maintain rational standards for these discussions. For example, speaker should try **to provide reasons** for his/her position; **be logical** and **aim at truth** of the matter.
 - To promote critical thinking, students should be lead not to take everything the presentation says for granted and to make their own minds. Allow disagreement supported by reason.
3. **Use further exercises and examples** provided in *Activity Worksheet* to explain key concepts (contradiction, theoretical and practical reason, doing the best, etc.) if necessary (about 20 min.)
4. **It is up to the teacher to prioritize** between discussion and further exercises and examples.

Power point Example

NEUROHEADWAY

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Imagine two judges, judging a murder case. Judge Raymond reaches his verdict on the basis of evidence, testimony and careful reasoning. Judge Irwine reaches his judgement by tossing a coin.

- Ask yourself:

„Which judge proceeded rationally?“

The Case of Two Judges

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- There are always problems to solve and things we would like to know.
- *Rationality* is very well regarded among people who like to approach their questions and problems by *carefully thinking* about them.
(as opposed to approaching them by *relying on faith, gut feeling, instinct* or something else)
- Famous biologist **Carl Linnaeus** named our own species *Homo sapiens sapiens* („Homo“ for man, sapiens for „wise“),... and we have kept the name to this day...
- We humans like to call ourselves wise, don't we? Many seems to think that they are **RATIONAL** and that they are even **MORE RATIONAL** than most of others...
(...who also think that they are more rational than others... :)

„I am rational human!“

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- So, **rationality** means that you use **reason** to guide your thinking and action in the world. A reasonable person is guided by **what he or she believes to be true** and accepts it **because it is true**.
- Someone else might choose different capacity to guide his life. For example, a person of **faith** relies on his firm faith...; a **wishful** person might choose his beliefs according to his liking and wishes; a person of **emotion** relies on his gut feeling and intuition...; someone else might be relying on his **instinctual reactions**..., etc.

Human Capacities

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- **Rationality** applies to almost anything: persons, beliefs, actions, organizations, books, plans..., etc.
- For example, you can ask:
 - I „Is the belief that Earth is flat rational?“
 - II „Is Mr. Smith rational in his beliefs?“
 - III „Is it rational to learn mathematics?“
 - IV „Are Mrs. Smith plans rational?“
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Range of Rationality

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- Since Aristotle, philosophers distinguish between two kinds of rationality: **theoretical** and **practical**.
- **Theoretical** rationality is about answering questions. It's goal is to know the **truth** and avoid falsehood.
- **Beliefs** are elements of our picture of the world. So theoretical rationality is concerned with what **is** rational to **believe** and what **is not**.
- Remember: The goal of theoretical rationality is to know the **truth** and avoid **falsehoods**.

Two Kinds of Rationality

Teachers Evaluation and Handouts

Activity Worksheet: Rationality

Priming games

I. "What is X?" - Association Game with Concept Map

Instruction for the Teacher

In this game, the teacher serves as **facilitator** and **moderator**. He/She manages the flow of the game and provides initial input.

Association game uses association to prime students' thinking about given topic. In this case, **Rationality**.

Association game has stages and every stage has its defining name.

The goal of the game is to *explain* **Rationality** with the help of associations, concept mapping and group discussion.

At the end of the game, the individual student or group should be able articulate *what rationality in their view is*.

Stages **II, III and IV** can be assigned as individual or group homework.

Stage I: Introduction (5-10min.)

Introduce the game. Start by writing the topic phrase "RATIONALITY" with big letters in the middle of the board/monitor visible to all.

Add a personal symbol capturing your idea of rationality.

For example, draw image of a brain above the phrase, add geometrical patterns as decoration for the phrase, or draw simple light bulb.

Explain the game and its stages.

Stage II: Free Associations (depending on the number of students: 5 min. for every 2 students)

Invite students to think about their own associations of rationality.

Give students some time to collect their thoughts and then invite the first one to add his associations to the board.

The expected number of associations is 1-3 and each association should consist of one or two words.

Encourage students to add symbols, to visually express their associations, using colors, animations, decorations, drawings, etc.

Fill the board with associations until its almost full.

For example:

Emotion		Enlightenment	
Evidence	Proof	Cold	Logic
RATIONALITY			
Reason		Truth	Faith

Stage II: Connections (as long as necessary)

The goal of this stage is to create a web of connections between associations, sometimes called *concept map*.

A connection is simply a line connecting two words on the board. It means that things referred to by the words have some important relationship with each other.

Each connection should have a one-word definition describing the nature of connection between associations attached to it.

For example:

<https://www.tes.com/lessons/kRpxdnruNWsMNQ/the-scientific-revolution-the-enlightenment>

<https://study.com/cimages/videopreview/murzthgv0z.jpg>

Proceed similarly as in Stage II: invite students to add proposals for connections between associations until everybody is satisfied.

Stage IV: Tell a story (10 –20 minute preparation + 5-10 minute explanation)

Based on the web of associations, invite all students to provide a unified story of what Rationality is:

"Imagine that you are explaining to someone **what rationality is**.

Try to tell a story about what rationality is. Use the web of associations you have created.

Start by providing a definition of rationality and then explain how it relates to other concepts on the board.

Try to be proceed orderly and logically. Explain one thing at a time. Use simple and known words to explain rationality and related concepts."

During this stage, encourage civil and rational discussion among students. Creation of the story should be a collective effort.

Stage V: Discussion (10-30 minutes)

Finish the game with concluding discussion with students on these questions:

"Do you feel now like you know what rationality IS NOT? If you do, explain."

"Are you satisfied with your explanation of rationality?"

"Would you like to add something to it?"

"Do you think it contains unnecessary elements?"

II. Ideal figure

Instruction for the Teacher:

This type of game uses student's empathy and imagination to solidify a concept. In this case, the **target concept** is *rationality*.

The goal of this game is to develop target concept.

At the end of the game, the individual student or group should be able articulate their pre-conception of *rationality*.

Stage I: Finding the figure (10-15min)

Students are asked to create mental image of a figure which in their minds embodies the quality of being *rational* (let 'R' stand for *rationality/being rational*). If the students cannot come up with real figures, they can extend their imagination to fictional ones, like imaginary persons, real or imaginary animals, supernatural creatures and beings).

Try questions and instructions like:

- "Who is the most R person you know?"
- "Who embodies the quality of R the most"?
- "Can you form an ideal of R?"
- "Imagine having an ideally R person."
- "If you don't have one, just use your imagination to create one."

Stage II: Guided Imagery (10min for image creation + 10min for writing down its description)

Give students time to create lively and felt image of their figure.

Then ask them to give it a *name*. Students are free to choose the name that best fits their image (let 'X' stand for the *name*).

Then, ask them to describe and embody X:

- "How is X?"
- "What is X's nature?"
- "How does X look like?"
- "How does X behave?"
- "How is it like to be X?"
- ...and so on.
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Let the students write down their descriptions.

The only limitation is that the description has to be **verbal**. Students have to use **words** to describe X.

Stage III: *Presentation* (5min per student presentation + 15min for common features)
Ask student to present their figures by one by reading their written description.
Lastly, try to find together with students common features in individual descriptions.