

Debates on Ethics of Big Data and Data Science

(Master in Data Science &
Erasmus Mundus BDMA)



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Introduction to Ethics and Debates

Knowledge objectives

1. Define ethics
2. Define ethics scope
3. Define the main elements in a debate
4. Explain the duties of each team
5. Enumerate the phases in a debate
6. Explain what rebuttals are
7. Explain what Points of Information are

Understanding objectives

- ❑ Express an argument with the necessary three elements
- ❑ Refute an argument using any of the four strategies and the right structure
- ❑ Given a flawed argument, identify it as a fallacy
- ❑ Given a debate, properly fill a flow sheet

Application objectives

- ▣ Use the rubric to personally evaluate de debaters

ETHICS

Ethics

“Discipline that identifies and analyzes the impact of information technologies in human and social values (i.e., health, wealth, work, freedom, democracy, knowledge, privacy, security and self-realization).”

J.B. Peña and E.A. Fernández

Ethical objectives

- ❑ Discover and articulate key ethical dilemmas
 - Determine to which extent they are worsened, transformed or created by ICT
 - Use ethics theory to clarify them and detect ethical reasoning errors
- ❑ Analyze and propose an adequate conceptual framework to
 - a) understand ethical dilemmas originated in ICT
 - b) establish some guidelines (in front of the lack of regulation) to determine what to do in the new technological activities where you cannot clearly decide the right way to act

Aspects to consider

- ❑ Information usage
- ❑ Information ownership
- ❑ Information as an instrument to harmful acts
- ❑ Information as a source of fears and threats
- ❑ Social dimension of ICT

DEBATES

Skills learned

- ❑ Research competence
- ❑ Reading comprehension
- ❑ Argument literacy
- ❑ Evidence evaluation
- ❑ Summarization and outlining
- ❑ Public speaking
- ❑ Floor management and civility

Basic elements

- ❑ One topic
 - Chosen by lecturers
 - Announced one week in advance
 - Needs to be prepared at home
- ❑ Two sides (i.e., proposition and opposition)
 - Students do **not choose** their side
 - Each speech is done by a different member
- ❑ One jury
 - Decides the result of the debate
 - Evaluates speakers

OPPOSITION; PROPOSITION AND JURY
PARTICIPANTS

Proposition team

- ❑ Sits on the judge's left
- ❑ Makes a case for the motion
- ❑ After the debate summarizes its arguments

Has to proof the motion is true

Opposition team

- ❑ Sits on the judge's right
- ❑ Argue against the case made for the motion
- ❑ After the debate summarizes its arguments

Shows that the proposition team's case is inadequate, dangerous or otherwise misguided

Jury team

- ❑ Introduces the topic
- ❑ Times the debate
 - Slap on the table to signal “unprotected” time
 - ❑ One minute after construction speeches begin
 - ❑ One minute before construction speeches end
- ❑ Takes notes on their flowsheet
- ❑ Keeps in mind:
 - Identify their own biases and apply reciprocal standards
 - Presume that the debaters are acting in good faith
 - Be patient and give debaters the benefit of the doubt
- ❑ Decides the outcomes
 - Winning team
 - ❑ Leave aside personal ideas and opinions
 - The goal of debaters is not **personally** convince the jury (they debate each other)
 - ❑ Analyze the impact (i.e., consequences) of arguments (not just the number)
 - Proposition team wins if they show their case is comparatively advantageous
 - ❑ Do not fill in for speakers (all they said is all there is)
 - Award individual points to each debater (using the given rubric)
- ❑ Completes a ballot
- ❑ Explains the reasons
 - Different people can have different opinions
 - Constructive criticism

PREPARATION, SPEECHES, REBUTTALS AND CONCLUSION

PHASES OF THE DEBATE

Phases of the debate

1. Feedback from previous session
2. Introductory presentation (20 minutes)
 - Overviews the topic and focus the statement (reasonable interpret it or shrink it)
3. Preparation period (30 minutes)
 - Review notes and decide strategy
4. 1st proposition constructive (5 minutes)
 - Introduce the motion
 - Provide an interpretation
 - Outline the major arguments
5. 1st opposition constructive (5 minutes)
 - Engage arguments from the previous speech to refute them
 - Give new arguments to advance opposition case
6. 2nd proposition constructive (5 minutes)
 - Summarize all given arguments
 - Engage arguments from the previous speech
 - Last chance to introduce new arguments
7. 2nd opposition constructive (5 minutes)
 - Continue refutation
 - Last chance to introduce new counter-arguments
8. Opposition rebuttal (3 minutes)
 - Identify few important issues
 - Use them as independent proofs about why opposition should win
9. Proposition rebuttal (3 minutes)
 - Answer arguments of the previous two phases
 - Culminate in few independent proofs about why proposition has won the debate
10. Summaries, ballot and evaluation writing (60 minutes)
11. Outcome explanation (5 minutes)

Preparation time

- ❑ Decide the interventions
- ❑ Distribute arguments
- ❑ Gather last minute ideas
 - Arguments
 - Speaking techniques
- ❑ Prepare the flow
 - Outline speeches (they cannot be simply read)

Speeches

- ❑ Introduce arguments
- ❑ Refute opposing arguments (line by line)
- ❑ Add depth to previous arguments
- ❑ Engage in analysis about which arguments are:
 - Important
 - Inconsistent
 - Unimportant to the resolution of the debate

Reading notes is absolutely forbidden

Rebuttals

- ❑ Refer back to the team's overall **theme**
- ❑ Summarize the important issues
 - This does not mean repeating arguments
- ❑ Compare arguments
 - Weight impacts
- ❑ Provide new evidences

Cannot bring up new arguments

Points Of Information

- ❑ Argument delivered by the opposing side during a speech
 - May be a statement or a question
- ❑ Can only be attempted during a constructive speech
 - Always after the first minute and before the last minute (unprotected time)
- ❑ May not be more than 15 seconds
- ❑ The speaker must recognize you to make your point
 - Speaker is under no obligation to accept a specific number of points
 - ❑ It is in her interest to accept as many POIs as she can
 - Usually between 2 and 4

ARGUMENTS, REFUTATION AND FALLACIES

TECHNIQUES FOR

DEBATERS

Techniques: Parts of Arguments (ARE)

- **Assertion:** Claim about the world or statement
- **Reasoning:** “Because” part of the argument
- **Evidence:** Provides proof of the reasoning
 - Usually an example

“Poverty is harmful because when families are poor, they cannot regularly feed their children. For example, often poor families have to choose between paying their rent and buying food.”

Techniques: Refutation strategies

Ignoring an argument you signal agreement

- i. Test of relevance
 - Show that it is not relevant
 - Agree on the argument
 - Disagree on its importance
- ii. Test of significance
 - Compare it against another argument which is more important
- iii. Turn or capture the argument
 - Capture the argument for your side
- iv. Answer the argument
 - a) The reasoning is flawed
 - b) There is evidence of the contrary
 - c) There are meaningful exceptions

Techniques: Refutation structure

“A debate without refutation is just an exchange of ideas. It is necessary to have **clashes**.”

- 1) Refer to the argument (“They say ...”)
- 2) Counter-assertion (“But ...”)
- 3) Reasoning on counter-assertion (“Because ...”)
 - Clash in the assertion does not imply clash between reasoning
- 4) Explain why your idea is (“Therefore ...”)
 - a. Better
 - b. More important
 - c. More likely to be true

Techniques: Refutation superiority

- a. It is better reasoned
- b. It has better evidence
- c. It has been true in the past
- d. It takes theirs into account
- e. It has a greater significance
- f. It is consistent with experience

Techniques: Logical fallacies

“Incorrect conclusion that comes from faulty reasoning.”

- a) The appeal to tradition
 - “We have done that thing a certain way.”
- b) The appeal to authority
 - “Someone said something.”
 - “Someone” must be an authority
 - This must not substitute the reasoning
- c) The fallacy of false cause
 - “A happened, then B happened, therefore A caused B.”
- d) The fallacy of composition
 - “What is true for a part is true for the whole.”
- e) The fallacy of division
 - “What is true for the whole is true for the part.”

FLOW SHEETS, BALLOT AND EVALUATION RUBRICS

**SUPPORT ELEMENTS FOR
THE JURY**

Techniques: Flowsheets

- ❑ Similar to a flow chart
- ❑ Contains 5 columns
 1. 1st proposition constructive
 2. 1st opposition constructive
 3. 2nd proposition constructive
 4. 2nd opposition constructive and rebuttal
 5. Proposition rebuttal
- ❑ Use arrows and markers to show how arguments are related to each other and develop (or not)
 - This is essential to evaluate, compare and synthesize

Ballot writing

- ❑ Be thorough
- ❑ Provide a reason for decision
 - Use constructive criticism
- ❑ Tell debaters
 - a) What they did well
 - b) What they could do to improve
- ❑ Discuss and compare arguments
 - Provide thorough analysis of the debate

Individual evaluation rubric

- ❑ Description
 - Adhere the rules of the debate and be respectful, using appropriate language
 - Confident, consistent presentation and proper role playing correctly using debate elements like PoIs and argument comparison
- ❑ Argumentation
 - Provide relevant strong convincing arguments
 - Use of ARE format, with consistent reasoning and appropriate strong detailed accurate evidences without logic gaps nor fallacies
 - Identify existing cause-effect relationships
- ❑ Refutation
 - Offer effective proper advanced clashing replies to the opponents' arguments
 - Able to either accept or reject PoIs
- ❑ Structure
 - Have an easy to follow narrative structure to the speech (i.e., Introduction, Body and Conclusion)
 - Use time effectively
 - Summarize and properly compare the impact of main arguments
- ❑ Presentation
 - Be thoughtful and show preparation
 - Have a good knowledge about the subject and stay on topic
 - Use good supporting material (e.g., slides, statistics, charts), which is well organized and without misspelling or grammatical errors
 - Have a good speaking style (i.e., volume, rate, sequencing, fluency, clarity and pronunciation, emphasis, word choice)
 - Use of nonverbal communication (i.e., body positioning, eye contact, gestures) to show believability

Summary

- ❑ Duties of the jury
- ❑ Debate phases
 - Points of Information
- ❑ Techniques
 - ARE argumentation model
 - 4-steps refutation model
 - Flow sheets
- ❑ Individual evaluation rubric

Bibliography

- ▣ J. Meany & K Shuster. *Speak out: Debate and Public Speaking in the Middle Grades*. Idea press, 2005

Resources

- ❑ Stephen's guide to the Logical Fallacies
 - <http://datanation.com/fallacies>
- ❑ Informal Logical Fallacies
 - <http://sun-design.com/talitha/fallacies.html>
- ❑ The Fallacy Files
 - <http://www.fallacyfiles.org/index.html>