

# COME ON, EINSTEIN!

## USING LOGIC PUZZLES TO PRACTISE LANGUAGE SKILLS

**Pete Westbrook**

Academic Language Consultant

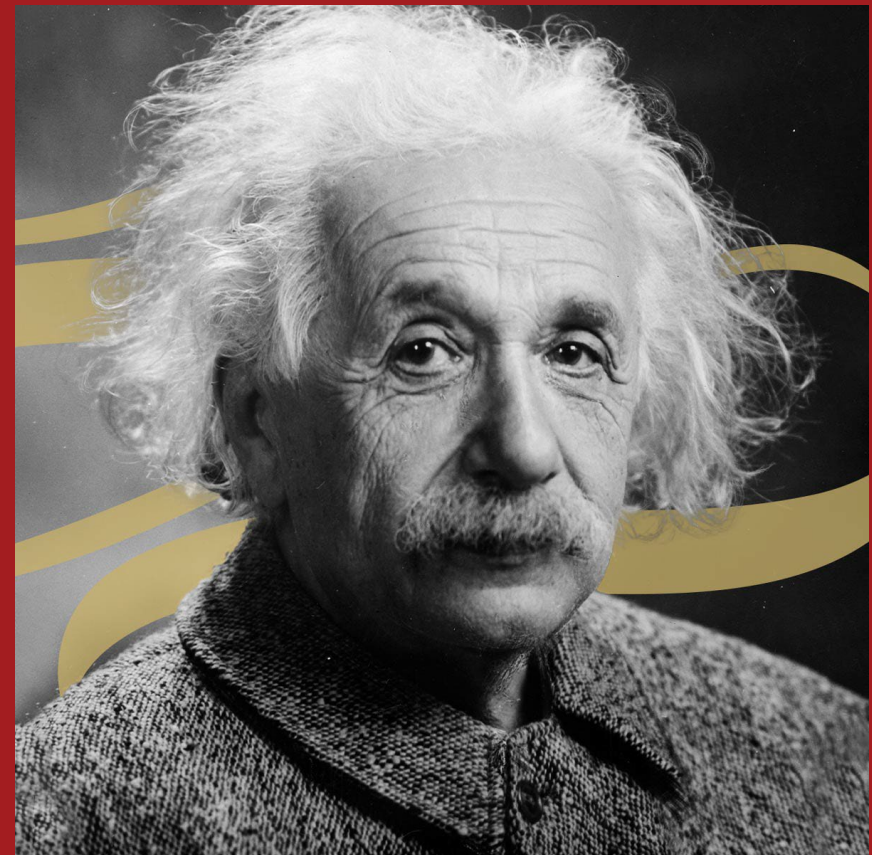
Centre for Internationalisation and Parallel  
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University of Copenhagen

Denmark

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# Outline

- What are Einstein puzzles?
- How can you create an Einstein puzzle?
- How can they be used in class?
- Pros and cons
- Practical issues
- Conclusion

# What are Einstein puzzles?

# Einstein's riddle (zebra puzzle)

There are five houses of different colours next to each other. In each house lives a man. Each man has a unique nationality, an exclusive favourite drink, a distinct favourite brand of cigarettes and keeps specific pets. Use all the clues below to fill the grid and answer the question: **"Who owns the fish?"**

	House #1	House #2	House #3	House #4	House #5
Colour					
Nationality					
Drink					
Cigarette					
Pet					

<https://www.brainzilla.com/logic/zebra/einsteins-riddle/>

# Simple puzzle as illustration

Three houses and three clues – who lives in the white house?

	House #1	House #2	House #3
Colour			
Nationality			

The Spaniard lives directly to the right of the Red house.

The Norwegian lives in the Blue house.

The Italian lives in house #2.

# Simple puzzle as illustration

Three houses and three clues – who lives in the white house?

	House #1	House #2	House #3
Colour			
Nationality		Italian	

The Spaniard lives directly to the right of the Red house.

The Norwegian lives in the Blue house.

**The Italian lives in house #2.**

# Simple puzzle as illustration

Three houses and three clues – who lives in the white house?

	House #1	House #2	House #3
Colour			
Nationality		Italian	Spanish

**The Spaniard lives directly to the right of the Red house.**

The Norwegian lives in the Blue house.

**The Italian lives in house #2.**

# Simple puzzle as illustration

Three houses and three clues – who lives in the white house?

	House #1	House #2	House #3
Colour		Red	
Nationality		Italian	Spanish

**The Spaniard lives directly to the right of the Red house.**

The Norwegian lives in the Blue house.

**The Italian lives in house #2.**



# Simple puzzle as illustration

Three houses and three clues – who lives in the white house?

	House #1	House #2	House #3
Colour	Blue	Red	
Nationality	Norwegian	Italian	Spanish

**The Spaniard lives directly to the right of the Red house.**

**The Norwegian lives in the Blue house.**

**The Italian lives in house #2.**

# Simple puzzle as illustration

Three houses and three clues – who lives in the white house?

	House #1	House #2	House #3
Colour	Blue	Red	White
Nationality	Norwegian	Italian	Spanish

**The Spaniard lives directly to the right of the Red house.**

**The Norwegian lives in the Blue house.**

**The Italian lives in house #2.**

# How can you create an Einstein puzzle?

# Use an existing puzzle: <https://www.brainzilla.com/logic/zebra/>

## Very Easy Puzzles

### Movies Night

Four boys are home watching some movies. Can you find out every characteristic about each boy?

## Easy Puzzles

### Fancy Hotels

Five fancy hotels were built in the same street in different decades. Which hotel was the first one to be built?

### Who Owns the Crocodile? featured

Use the logic to find out which girl owns the crocodile.

## Medium Puzzles

### Ancient Civilizations

Five girls are passionate about ancient civilizations. Follow the clues to find out who likes the Aztecs.

### Angel Investors

Five angel investors are talking about the investments they made last month. Find out who is interested in biotech companies.

### Back to Normal new

Five women are talking about their plans to travel after the Covid-19 pandemic. Figure out who is going to travel for 10 days.



# Design your own Einstein puzzle



1. Make up a scenario, e.g. three musicians.
2. Assign values, e.g. names, ages, instruments and music genres.
3. Put these values in a grid.
4. Using the grid, make up clues
5. Test run your puzzle

# Use an existing Einstein puzzle as a template

1. Choose a scenario, e.g. HR vocabulary
2. Base grid and clues on an existing template
3. Draw the solution grid
4. Rework the clues to fit your scenario
5. Test run

## Five bankers

<b>Nationality</b>					
<b>Car</b>					
<b>Hobby</b>					
<b>Department</b>					

**Insider dealing scenario (Financial English)**



**HR grievance procedure scenario (my HR class)**

# HR PUZZLE (based on puzzle from Financial English by Ian Mackenzie)

(left-hand office)

(middle office)

(right-hand office)

Job title					
Current task					
Error					
Faculty					



## HR Course puzzle

- The employee in the middle office has accidentally forgotten to apply for reimbursement of sickness benefits from the municipality.
- The Senior HR Consultant has the right-hand office .
- The Occupational Health and Safety Consultant works in the office immediately between the Head of Section and the Senior HR Consultant.
- By mistake, the Senior HR Consultant has mislaid a medical certificate for an employee on sick leave.
- .....

## HR Course puzzle

- The employee in the middle office has accidentally forgotten to apply for **reimbursement of sickness benefits** from the **municipality**.
- The **Senior HR Consultant** has the right-hand office .
- The **Occupational Health and Safety Consultant** works in the office immediately between the **Head of Section** and the **Senior HR Consultant**.
- By mistake, the Senior HR Consultant has mislaid a **medical certificate** for an employee on **sick leave**.
- .....

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Faculty					

# HR PUZZLE (based on puzzle from Financial English by Ian Mackenzie)

(left hand office)

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(right hand office)

Job title					Senior HR Consultant
Current task					
Error			Has forgotten to apply for reimbursement of sickness benefits from the municipality		
Faculty					

# HR PUZZLE (based on puzzle from Financial English by Ian Mackenzie)

(left hand office)

(middle office)

(right hand office)

Job title			Head of Section	Occupational Health and Safety Consultant	Senior HR Consultant
Current task					
Error			Has forgotten to apply for reimbursement of sickness benefits from the municipality		
Faculty					

# HR PUZZLE (based on puzzle from Financial English by Ian Mackenzie)

(left hand office)

(middle office)

(right hand office)

Job title	HR Officer	Union representative	Head of Section	Occupational Health and Safety Consultant	Senior HR Consultant
<b>Current task</b>	Calculating accrued holiday days for an employee	Taking the minutes of a meeting of the local collaboration committee	Reading a shortlist of candidates for interview	Investigating the 'concurrent holiday scheme' for a colleague	Checking whether an employee is eligible for a pension exemption
<b>Error</b>		Has mixed up the figures relating to maternity leave with those for parental leave	Has forgotten to apply for reimbursement of sickness benefits from the municipality	Has forgotten to register 'time off in lieu' for overtime that an employee has worked	Has mislaid a medical certificate for an employee on sick leave
<b>Faculty</b>	LAW	SCIENCE	HEALTH	SOCIAL SCIENCES	

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<b>Faculty</b>	LAW	SCIENCE	HEALTH	SOCIAL SCIENCES	HUMANITIES

# How can they be used in class?

# Tailoring the puzzle to your class

- Make up clues to fit your language class needs
- Adjust level of difficulty:
  - Different lengths of clues
  - Number of clues
  - One clue per cell - or more?
  - Random or correct order of clues

# Different methods of delivery

- Individual in class/homework
- Pair/group exercise
- Competitive activity in class
- 'Meeting' task

# FINANCE PUZZLE

(left hand office)

(middle office)

(right hand office)

Job title					
Current task					
Error					
Faculty					

# FINANCE PUZZLE

(left hand office)

(middle office)

(right hand office)

Job title	Bookkeeper	Accounts assistant	Financial controller	Budget officer	Accountant
Current task	Working out maternity leave reimbursement	Calculating total assets and liabilities for the balance sheet	Reconciling sundry costs incurred with corresponding receipts	Entering depreciation on a project for the current year	Checking the exchange rate between kroner and dollars
Error	Lost an invoice from the municipality	Extracted the wrong account string from the chart of accounts	Forgotten to write up the minutes of the dept meeting	Has wrongly posted interest earned as an expense	representation posted on the wrong account
Faculty	LAW	HEALTH	SCIENCE	HUMANITIES	SOCIAL SCIENCES

# Pros and cons

# Pros

- Solution-based puzzle
- Fun for participants
- Creative and fun for teacher
- Can adapt the level of difficulty & content
- Advantages of 'meeting' delivery



# Cons

- Hard to get level right sometimes
- Takes a few hours work to start with
- Some participants may not 'get it'

# Practical issues

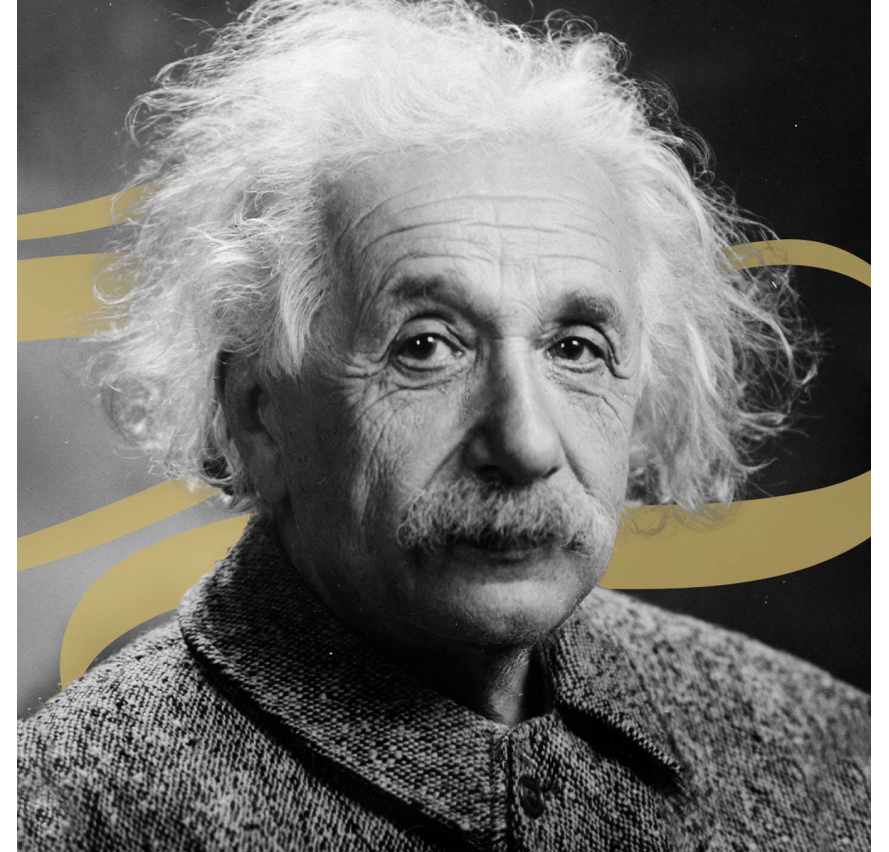
# Practical issues

- Find/design a puzzle that is challenging but not too difficult
- Make sure puzzle works!
- Clear instructions
- Easiest to copy pre-existing puzzle
- Make sure students know all the values & the words
- Try to make realistic, but not obvious

# Conclusion

# Conclusion

**Einstein puzzles can function as fun, flexible, solution-based tasks for any language classroom context.**



# Links

- Einstein's riddle:  
<https://www.brainzilla.com/logic/zebra/einsteins-riddle/>
- More zebra puzzles: <https://www.brainzilla.com/logic/zebra/>
- Designing your own puzzle:  
<https://www.thesprucecrafts.com/how-to-make-solve-logic-puzzle-2809337>

**Thank you for your attention**

**Questions &  
comments?**

Email: [westbrook@hum.ku.dk](mailto:westbrook@hum.ku.dk)

**Download presentation here:**

