Welcome to

Training Module 5: Memory

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Memory

- Our capacity to memorise information is limited.
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Example: approximately 40% of the details of a story we have heard half an hour ago cannot be actively recalled.
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Advantage: ???

Disadvantage: ???
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**Advantage:** Our brain is not overloaded with useless information. Mostly, irrelevant information is lost ... *but*

**Disadvantage:** ???
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**Example:** approximately 40% of the details of a story we have heard half an hour ago cannot be actively recalled.

**Advantage:** Our brain is not overloaded with useless information. Mostly, irrelevant information is lost ... *but*

**Disadvantage:** ... important information also vanishes (appointments, memories from holidays, knowledge acquired in school ...).
How can I improve my memory?

???
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- repeat & work through; COMPREHEND
How can I improve my memory?

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- with abstract matters: try to think of examples or simple mnemonic aids (e.g. for screws: lefty = loosy; righty = tighty)
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- combine information with existing knowledge
How can I improve my memory?

- repeat & work through; **COMPREHEND**
- with abstract matters: try to think of examples or simple mnemonic aids (e.g. for screws: *lefty = loosy; righty = tighty*)
- combine information with existing knowledge
- avoid studying too long
How can I improve my memory?

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- avoid studying too long
- drink no/little alcohol
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- go to bed after learning (no further distraction)
How can I improve my memory?

- repeat & work through; **COMPREHEND**
- with abstract matters: try to think of examples or simple mnemonic aids (e.g. for screws: *lefty* = *loosy*; *righty* = *tighty*)
- combine information with existing knowledge
- avoid studying too long
- drink no/little alcohol
- go to bed after learning (no further distraction)
- involve many senses while learning (e.g. listen, watch, write things down)
How can I improve my memory?

The more senses that are involved during learning, the better recollection!
Do we all perceive and remember the same?

Example: Three different artists paint the same Spanish landscape ...
Please pay attention to differences relating to colour and size in the paintings. Are there aspects that the artists have painted differently or have even omitted?
Andreas Weißgerber: The hills on this painting are smaller than on the two other paintings.

Helmut Schack: On this painting, you see that different pieces of land outstretch until the horizon. The landscape is much more colourful. In contrast to the other two paintings, a group of trees partly stands directly in front of the horizon (no hills behind).

Bernd Hampel: The colour of the landscape is much more *earthen*. The tree right to the path is missing (red circle).

Every person perceives things differently! Like in the three paintings: The same landscape is depicted but with different emphases!
Exercise

- You will be shown complex scenes (e.g. beach, train station).

Try to recall as many details as possible!
Exercise

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- Afterwards, you will be asked to recall what you saw in the picture and how confident you are in your judgement.
Exercise

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- Afterwards, you will be asked to recall what you saw in the picture and how confident you are in your judgement.

Try to recall as many details as possible!
At the beach
What did you see? How confident are you?

- beach umbrella
- lifeguard
- dog
- ball
- lifesaver
- water
- hat
- towel
At the beach

- beach umbrella
- lifeguard
- dog
- ball
- lifesaver
- water
- hat
- towel

= not presented
Station

What did you see? How confident are you?

- rails
- carriage
- train engine
- station
- timetable
- train conductor
- suitcases
- railway signal
- bench
Station

- rails
- carriage
- train engine
- station
- timetable
- train conductor
- suitcases
- railway signal
- bench

= not presented
Not everything we recall has actually happened!

Our brain replaces and adds missing information from past or related events (e.g. typical beach scene from holidays). Some objects are added by "logic" (in the example: ball, towel).

Real memories can often be differentiated from false memories by their vividness: false memories are rather "pale" and less detailed.
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False memories in everyday life

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Types of memory errors
Types of memory errors

- Forgetting
Types of memory errors

- Forgetting

- Memory biases:
  - normal memory bias: positive events are better memorised than negative events
  - depressive memory bias: negative events are better memorised than positive events
Types of memory errors

- Forgetting

- Memory biases:
  - normal memory bias: positive events are better memorised than negative events
  - depressive memory bias: negative events are better memorised than positive events

- Illusions/false memories: remembering things that have not taken place!
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Some eye witnesses of the bombing in Dresden (Germany) remembered that after the bombardment low-flying planes were chasing fleeing people. Historians increasingly doubt this (e.g. dust and spreading fires would have made such acts impossible).
### False memories

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<tr>
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</tr>
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The famous psychologist Jean Piaget remembered being kidnapped as a two-year old, which turned out to be a story his nanny had made up when he was a child.

In an experiment, participants were shown advertisements for *Disney World*, on which Bugs Bunny was shown. 30% of the participants remembered meeting the rabbit when visiting *Disney World* as a child, although Bugs Bunny is a *Warner Brothers* and not a *Disney* character.
Studies show that many people with psychosis (but not all!) are more confident in false memories than people without psychosis.
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At the same time the confidence for true memories (i.e. things that really happened) is decreased in psychosis.
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At the same time the confidence for true memories (i.e. things that really happened) is decreased in psychosis.

This may lead to difficulties differentiating true from false memories and may obstruct a healthy, realistic view of the environment.
How memory errors promote misinterpretations during psychosis – examples

<table>
<thead>
<tr>
<th>Event</th>
<th>False memory</th>
<th>Actual situation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argument with mother</td>
<td>Remembering she said “You are not my daughter anymore!”</td>
<td>Mother actually said: “I did not know you were like that!” – with time, the exact wording could not be remembered.</td>
</tr>
<tr>
<td>Group therapy session</td>
<td>No one cares about my problems.</td>
<td>Other participants did try to console in that situation but this was later forgotten.</td>
</tr>
</tbody>
</table>
Exercise

- Again, you will be presented complex scenes.
Exercise

- Again, you will be presented complex scenes.
- Try to detect what has been shown and what has been left out.
Kiosk
What did you see? How confident are you?

- kiosk sign
- sausage
- rubbish bin
- bench
- flags
- price tags
- bottles
- vendor
Kiosk

- kiosk sign
- sausage
- rubbish bin
- bench
- flags
- price tags
- bottles
- vendor

= not presented
Garden

What did you see? How confident are you?

- watering can
- sunflowers
- flower bed
- tree
- spade
- rake
- hose
Garden

- watering can
- sunflowers
- flower bed
- tree
- spade
- rake
- hose

= not presented
optional: Video Clip

- optional: Video clip presentations that address today’s topic are available at the following website: http://www.uke.de/mct_videos

- After the video, you may discuss how it is related to today’s topic.

[for trainers: Some movie clips contain language that may not be appropriate for all audiences and across all cultures. Please carefully pre-screen videos before showing]
Brainstorming

What do you see in a typical classroom?

- ...
- ...
- ...
- ...
Classroom
What did you see? How confident are you?

- rucksack
- teacher
- map
- books
- benches
- teacher’s chair
- blackboard
- teacher’s bag
Classroom

- rucksack
- teacher
- map
- books
- benches
- teacher’s chair
- blackboard
- teacher’s bag

= not presented
Fisherman
What did you see? How confident are you?

- pipe
- bucket
- button on hat
- “Sport” sign on boat
- fishing rod
- red jumper
- water
- fish
Fisherman

- pipe
- bucket
- button on hat
- “Sport” sign on boat
- fishing rod
- red jumper
- water
- fish

= not presented
Brainstorming

What do you typically see at a road crossing?

➢ ...
➢ ...
➢ ...
➢ ...
➢ ...
Road crossing
What did you see? How confident are you?

- cars
- policeman
- child on a bike
- elderly woman
- green traffic light
- zebra crossing
- stop sign
- city skyline
Road crossing

- cars
- policeman
- child on a bike
- elderly woman
- green traffic light
- zebra crossing
- stop sign
- city skyline

= not presented
Brainstorming

What do you typically find on a playground?

- ...
- ...
- ...
- ...
- ...
Playground

What did you see? How confident are you?

- slide
- roundabout
- kite
- skateboard
- ball
- trees
- swing
- toys
- sandbox
Playground

- slide
- roundabout
- kite
- skateboard
- ball
- trees
- swing
- toys
- sandbox

= not presented
Wedding

What did you see? How confident are you?

- church windows
- best man
- bridal veil
- girl with flowers
- benches
- door
Wedding

- church windows
- best man
- bridal veil
- girl with flowers
- benches
- door

= not presented
Football

What did you see? How confident are you?

- scoreboard
- goal
- sidelines
- player
- football
- fans
- advertisement
- flags
Football

- scoreboard
- goal
- sidelines
- player
- football
- fans
- advertisement
- flags

= not presented
On the moon
What did you see? How confident are you?

- rocket stand
- oxygen tank
- helmet
- moon craters
- rocket nozzle
- crescent-shaped planet in the background
On the moon

- rocket stand
- oxygen tank
- helmet
- moon craters
- rocket nozzle
- crescent-shaped planet in the background

= not presented
Tanker
What did you see? How confident are you?

- crane
- buoy
- barrel
- captain
- coal
- flag
- ship’s name
Tanker

- crane
- buoy
- barrel
- captain
- coal
- flag
- ship’s name

= not presented
Rescue
What did you see? How confident are you?

- helicopter
- rubber dinghy
- diver
- capsized boat
- water
- stretcher
- life-belt
- pilot
Rescue

- helicopter
- rubber dinghy
- diver
- capsized boat
- water
- stretcher
- life-belt
- pilot

= not presented
Brainstorming

What do you typically see at a construction site?

- ...
- ...
- ...
- ...
- ...
Road works
What did you see? How confident are you?

- pipes
- wheelbarrow
- barrier
- excavator
- jackhammer
- shovel
- stop sign
Road works

- pipes
- wheelbarrow
- barrier
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- shovel
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= not presented
Learning Objectives:

- Our memories can play tricks on us!
  Especially for important events (quarrel, eyewitness testimony etc.), keep in mind:
  If you *cannot* remember *vivid* details about an event:
- Don’t be too sure that your recollection is true.
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  - If you *cannot* remember *vivid* details about an event:
  - Don’t be too sure that your recollection is true.
  - Seek additional information (e.g. a witness).

Example: You had a quarrel with someone and *vaguely* remember that he/she made insulting remarks to you. Consider that your memory may have played tricks on you or that your recollection may be distorted. Also, ask people who were present at the occasion.
What does this have to do with psychosis?

During psychosis people are prone to remember things that did not happen at all or happened in a different way.
What does this have to do with psychosis?

During psychosis people are prone to remember things that did not happen at all or happened in a different way.

Example: Philip is convinced that someone has stolen his bike.
Background: His bicycle is not in front of his door as usual and he is 100% certain that he left it there last night. He then sees his locked bike in front of the supermarket next door, and is about to call the police as he suspects the burglar is in the supermarket. For him, the incident is yet another indication for a conspiracy since his wallet was stolen 3 weeks ago.
But: In the telephone booth, Philip puts his hand into his pocket and notices the bicycle key. He suddenly remembers that he himself left the bike in front of the supermarket.
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False memories are more likely to arise when one is afraid or under a lot of pressure. Before drawing consequential conclusions: Think carefully whether your assumptions are objective and well-founded! Also take into account: In comparison to real memories, false memories are often hazy!
for trainers:
Please hand out worksheets. Introduce our app “MCT & More” (download free of charge).

www.uke.de/mct_app
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<th>Picture Name/Name des Bildes</th>
<th>CC = used with corresponding creative commons license; PP = used with personal permission of artist</th>
<th>Description/Kurzbeschreibung</th>
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</thead>
<tbody>
<tr>
<td>Bernd Hampel, Helmut Schack, Andreas Weiβgerber</td>
<td>Private/privat</td>
<td>Untitled/ohne Titel</td>
<td>PP</td>
<td>Paintings of Spanish landscape/Gemälde einer katalanischen Landschaft</td>
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<td>The Rocketeer</td>
<td>flickr</td>
<td>Kirk Talks to Spock about his Fez Addiction</td>
<td>CC</td>
<td>Star trek/Raumschiff Enterprise</td>
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<td>Bombed Dresden/Zerbombtes Dresden</td>
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<td>Piaget/Piaget</td>
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<td>missha</td>
<td>flickr</td>
<td>bugs bunny</td>
<td>CC</td>
<td>Bugs Bunny/Bugs Bunny</td>
</tr>
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<td>Norman Rockwell Edited by/Editiert v. Michael B. Miller</td>
<td>- - -</td>
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<td>PP</td>
<td>False memory pictures/False Memory Bilder</td>
</tr>
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<td>Geobra Brandstätter; Stefan Merz &amp; Frank Burmeister</td>
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<td>PP</td>
<td>Playmobil figures/Playmobilbilder</td>
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<td>Ximena Del Villar Derpsch</td>
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<td>- - -</td>
<td>PP</td>
<td>Drawings/Zeichnungen: Kiosk/Kiosk, Garden/Garten, Fisherman/Fischer, Road Crossing/Straßenkreuzung, Playground/Spielplatz, Football/Fußball</td>
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