Developmental Psychology

SSC2006
February/March 2017

"A fourth-grade reader may be a sixth-grade mathematician. The grade is an administrative device which does violence to the nature of the developmental process." — **B.F. Skinner**

Content

1. Course planning

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2. Introduction

Welcome to UCM Developmental Psychology! First of all I would like to thank you as course coordinator for selecting this interesting course. My name is Eveline Persoon and I am a developmental psychologist and primary school teacher. I am very passionate about teaching and educating students in the field of developmental psychology and next to this course I also coordinate another course that focusses on developmental neuropsychology. Development for me revolves around growing and increasing your capabilities over time. It sounds very cliché, but that is what it boils down to. Time is a crucial factor within the field of developmental psychology and development in general. Without time there would be no development.

During this course we will take a closer look at the developmental trajectory of different domains. For instance in our first task we will take a closer look at cognitive development and some classic theories that will forever be connected to it, like the ones by Piaget and Vygotsky. We will also take a closer look at language development, the development of attachment and other prominent topics like sensory development, brain development, emotional development and much more. Each topic will also accentuate interesting findings and research.

In terms of the structure of the course which is based on Problem Based Learning, the course will ask of its students to have a proactive attitude. This proactive attitude is necessary when studying the course materials on your own but also in the group meetings to acquire enough knowledge to pass the exams. The course can be challenging on some points, but it will also be interesting and fun. There is room for discussion and opinions during the group meetings and lectures and we definitely encourage this.

Lastly, we would like to mention that this course has been recently revised (see below for more information). Therefore, we are very interested in receiving feedback. Perhaps there are aspects you appreciate about the course but there might also be room for improvement. Feel free to e-mail the course coordinator, Eveline Persoon (eveline.persoon@maastrichtuniversity.nl), if you have any suggestions or remarks. Thank you in advance for your help!

We hope you will enjoy the course and for more information on the course planning group, the assessment, attendance and other aspects of this course, just keep on reading or ask your tutor during one of the meetings.

Regards!

Eveline Persoon (course coordinator)

3. Course revision 2017-2018

For the year 2017-2018 I was given the opportunity as a new course coordinator to revise the entire course. I paid a lot of attention to revising the course manual, the literature and the tasks. I would like to thank UCM for the opportunity to revise the course. I especially want to thank the previous course coordinators because I definitely took inspiration from the previous course manual featuring their ideas and the structure they designed in terms of the course objectives, the main themes of the tasks and description of the tasks.

In terms of all the new elements, I created a lot of things myself and with the help of my colleague, Katrien Hermans, who is also a course planning member of this course. Other colleagues helped me a lot by providing feedback on the course manual and my ideas. I especially want to thank Marly Tummers and Max Colombi for supporting me in this way. Lastly I also want to thank Arie van der Lugt for supporting me in coordinating this course.

Good education to me starts with inspiration. Personally I am inspired by talking and brainstorming with my colleagues and am also a Montessori education enthusiast. My main educational goal is to get students inspired and intrinsically motivated to learn and grow. This is why several of the tasks for this course have a different set-up in terms of the pre-discussion. Please feel free to be inspired by the different approaches to the pre-discussion in a PBL setting and also feel free to contact me for more information or to talk or brainstorm about education or PBL. See below for my contact information. Thank you!

4. Objectives

By the end of the course, students will demonstrate knowledge about/the ability to:

Learning objectives

- The main theories concerned with cognitive development as well as the associated debates and empirical findings.
- The different theories and debates concerned with early perceptual development and the associated empirical findings.
- The developing brain, imaging the developing brain and how brain maturation is connected to cognitive development.
- The information processing approaches to cognitive development.
- The different theories and debates concerned with language development and the associated empirical findings regarding bilingualism and dyslexia.
- The different theories and debates concerned with attachment and the associated empirical findings.

- The different theories and debates concerned with emotions and temperament and the associated empirical findings.
- The development of aggression and its connection to cyberbullying.
- Autism Spectrum Disorder (ASD), the theories and diagnosis regarding ASD and its relation to Theory of Mind, social development and other developmental disorders (especially ADHD).
- The development prosocial behaviour, its connection to evolution and the effect of friends on prosocial behaviour in childhood and adolescence.

Skills development

- Increase group communication skills in a PBL-group setting.
- Self-search articles and information during pre-discussions and for further clarification.

5. Readings

Books

The course selected various topics that are relevant and important for developmental psychology. As general sources for the course we suggest two books:

- Shaffer, D. R., & Kipp, K. (2013). *Developmental psychology: Childhood and adolescence*. Cengage Learning. – **9th edition**
- Smith, P. K., Cowie, H., & Blades, M. (2015). *Understanding children's development*. John Wiley & Sons. – **6th ediction**

Both books can be used to answer part of the learning goals. Before you buy one of these books, take into consideration the number of problems for which you need to use this book. Please take into consideration that next to the books, the course also requires that the student reads multiple articles or texts and also self-search information using Google, Google-Scholar, Psycinfo, YouTube or any other websites or sources that can help answer the learning goals. Feel free to send in literature suggestions if you come across any that might be interesting for the course. You can always e-mail the course coordinator or ask directly. Below you can find the suggested literature per task. Take the different symbols into account because they indicate the level of difficulty for each read. The literature in the literature list is in alphabetical order, except for the two books, those are always indicated first.

Reading symbols

1. (*)= introduction level
2. (**)= intermediate level
3. (***)= expert level

Readings per task

Task 1 - Changes

- Shaffer & Kipp, Chapter 6 (*)
- Smith, Cowie & Blades, Chapter 13, 16 (544-569) (*)
- Visser, L., Vlaskamp, C., Emde, C., Ruiter, S. A., & Timmerman, M. E. (2017). Difference or delay? A comparison of Bayley-III Cognition item scores of young children with and without developmental disabilities. *Research in developmental disabilities*, *71*, 109-119. (**)

Task 2 – Increasing abilities

- Shaffer & Kipp, Chapter 4 (*)
- Smith, Cowie & Blades, Chapter 11 (*)

- Leat, S. J., Yadav, N. K., & Irving, E. L. (2009). Development of visual acuity and contrast sensitivity in children. *Journal of Optometry*, *2*(1), 19-26. (***)
- Spelke, E. S., & Kinzler, K. D. (2007). Core knowledge. *Developmental science*, *10*(1), 89-96. (**)
- Vaish, A., & Striano, T. (2004). Is visual reference necessary? Contributions of facial versus vocal cues in 12-month-olds' social referencing behavior. *Developmental Science*, *7*(3), 261-269. (**)

Task 3 – What's in a brain? That which we call brain activity…

- Shaffer & Kipp, Chapter 5 (173-179) (*)
- Smith, Cowie & Blades, Chapter 2 (39-41) (*)
- Andersen, S. L. (2003). Trajectories of brain development: point of vulnerability or window of opportunity?. *Neuroscience & Biobehavioral Reviews*, *27*(1), 3-18. (**)
- Casey, B. J., Tottenham, N., Liston, C., & Durston, S. (2005). Imaging the developing brain: what have we learned about cognitive development?. *Trends in cognitive sciences*, *9*(3), 104-110. (**)
- Crone, E. A., & Ridderinkhof, K. R. (2011). The developing brain: from theory to neuroimaging and back. *Developmental Cognitive Neuroscience*, *1*(2), 101-109. (***)
- Karmiloff-Smith, A. (2010). Neuroimaging of the developing brain: Taking "developing" seriously. *Human brain mapping*, *31*(6), 934-941. (**)
- Pang, E. W. (2011). Practical aspects of running developmental studies in the MEG. *Brain topography*, *24*(3-4), 253-260. (***)

Task 4 – My socks are in the dryer

- Shaffer & Kipp, Chapter 7 (*)
- Smith, Cowie & Blades, Chapter 14 (*)
- Siegler, R. S. (1994). Cognitive variability: A key to understanding cognitive development. *Current directions in psychological science*, *3*(1), 1-5. (**)
- Siegler, R. S. (2007). Cognitive variability. *Developmental science*, *10*(1), 104-109. (**)

Task 5 – From "gaaa" to "water" (or "l'eau")

- Shaffer & Kipp, Chapter 9 (*)
- Smith, Cowie & Blades, Chapter 12 (544-569) (*)
- Hoeft, F., Hernandez, A., McMillon, G., Taylor-Hill, H., Martindale, J. L., Meyler, A., ... & Whitfield-Gabrieli, S. (2006). Neural basis of dyslexia: a comparison between dyslexic and nondyslexic children equated for reading ability. *Journal of Neuroscience*, *26*(42), 10700-10708. (**)
- Kousaie, S., Chai, X. J., Sander, K. M., & Klein, D. (2017). Simultaneous learning of two languages from birth positively impacts intrinsic functional connectivity and cognitive control. *Brain and cognition*, *117*, 49-56. (**)
- Mukadam, N., Sommerlad, A., & Livingston, G. (2017). The relationship of bilingualism compared to monolingualism to the risk of cognitive decline or dementia: a systematic review and meta-analysis. *Journal of Alzheimer's Disease*, (Preprint), 1-10. (**)
- Papagiannopoulou, E. A., & Lagopoulos, J. (2017). P300 event-related potentials in children with dyslexia. *Annals of dyslexia*, *67*(1), 99-108. (**)

Task 6 – A strange situation…

- Shaffer & Kipp, Chapter 10 (386-408) (*)
- Smith, Cowie & Blades, Chapter 4 (*)

- O'Conner, T. G., Marvin, R. S., Rutter, M., Olrick, J. T., Britner, P. A., & English and Romanian Adoptees Study Team. (2003). Child–parent attachment following early institutional deprivation. *Development and psychopathology*, *15*(1), 19-38. (**)
- Vicedo, M. (2017). Putting attachment in its place: Disciplinary and cultural contexts. *European Journal of Developmental Psychology*, 1-16. (***)

Task 7 – Happy marshmallows

- Shaffer & Kipp, Chapter 10 (*)
- Smith, Cowie & Blades, Chapter 6 (*)
- Ferrari, P. F., Visalberghi, E., Paukner, A., Fogassi, L., Ruggiero, A., & Suomi, S. J. (2006). Neonatal imitation in rhesus macaques. *PLoS biology*, *4*(9), e302. (***)
- Muris, P., & Ollendick, T. H. (2005). The role of temperament in the etiology of child psychopathology. *Clinical child and family psychology review*, *8*(4), 271-289. (***)
- Rothbart, M. K. (2007). Temperament, development, and personality. *Current directions in psychological science*, *16*(4), 207-212. (**)

Task 8 – Hissy fits…

- Shaffer & Kipp, Chapter 13 (493-505) (*)
- Smith, Cowie & Blades, Chapter 10 (*)
- Casas, J. A., Del Rey, R., & Ortega-Ruiz, R. (2013). Bullying and cyberbullying: Convergent and divergent predictor variables. *Computers in Human Behavior*, *29*(3), 580-587. (***)
- Pabian, S., Vandebosch, H., Poels, K., Van Cleemput, K., & Bastiaensens, S. (2016). Exposure to cyberbullying as a bystander: An investigation of desensitization effects among early adolescents. *Computers in Human Behavior*, *62*, 480-487. (**)
- Savina, E., Mills, J. L., Atwood, K., & Cha, J. (2017). Digital Media and Youth: a Primer for School Psychologists. *Contemporary School Psychology*, 1-12. (**)

Task 9 – Mindreading

- Smith, Cowie & Blades, Chapter 15 (*)
- Golan, O., Gordon, I., Fichman, K., & Keinan, G. (2017). Specific Patterns of Emotion Recognition from Faces in Children with ASD: Results of a Cross-Modal Matching Paradigm. *Journal of autism and developmental disorders*, 1-9. (**)
- Happé, F. G. (1994). An advanced test of theory of mind: Understanding of story characters' thoughts and feelings by able autistic, mentally handicapped, and normal children and adults. *Journal of autism and Developmental disorders*, *24*(2), 129-154. (***)
- Landon, J., Shepherd, D., & Goedeke, S. (2017). Predictors of Satisfaction with Life in Parents of Children with Autism Spectrum Disorder. *Journal of autism and developmental disorders*, 1-11. (**)
- Maenner, M. J., Rice, C. E., Arneson, C. L., Cunniff, C., Schieve, L. A., Carpenter, L. A., ... & Durkin, M. S. (2014). Potential impact of DSM-5 criteria on autism spectrum disorder prevalence estimates. *JAMA psychiatry*, *71*(3), 292-300. (***)
- Mayes, S. D., Calhoun, S. L., Mayes, R. D., & Molitoris, S. (2012). Autism and ADHD: Overlapping and discriminating symptoms. *Research in Autism Spectrum Disorders*, *6*(1), 277-285. (**)
- Mayes, S. D. (2017). Brief Report: Checklist for Autism Spectrum Disorder: Most Discriminating Items for Diagnosing Autism. *Journal of autism and developmental disorders*, 1-5. (**)
- Nordahl-Hansen, A., Øien, R. A., & Fletcher-Watson, S. (2017). Pros and Cons of Character Portrayals of Autism on TV and Film. *Journal of autism and developmental disorders*, 1-2. (*)
- Rajendran, G., & Mitchell, P. (2007). Cognitive theories of autism. *Developmental Review*, *27*(2), 224-260. (***)

Task 10 – Can I help you?

- Shaffer & Kipp, Chapter 13 (505-511) (*)
- Smith, Cowie & Blades, Chapter 9 (*)
- Barry, C. M., & Wentzel, K. R. (2006). Friend influence on prosocial behavior: The role of motivational factors and friendship characteristics. *Developmental psychology*, *42*(1), 153. (**)
- Warneken, F., & Tomasello, M. (2009). Varieties of altruism in children and chimpanzees. *Trends in cognitive sciences*, *13*(9), 397-402. (**)
- Whiten, A., & Erdal, D. (2012). The human socio-cognitive niche and its evolutionary origins. *Philosophical Transactions of the Royal Society of London B: Biological Sciences*, *367*(1599), 2119-2129. (***)

Media suggestions per task

These media-links are not per se exam related but may help you understand certain concepts or processes. If you have any suggestions for this list, please e-mail the course coordinator. Many thanks!

Task 1

- Bayley Infant & Toddler III Screen video (part 1 & 2)
  - https://www.youtube.com/watch?v=_njdDWG8AuY
  - https://www.youtube.com/watch?v=PxbaeI0uqq8
- The growth of knowledge
  - https://www.youtube.com/watch?v=8nz2dtv--ok

Task 2

- Babies on the brink (visual cliff)
  - https://www.youtube.com/watch?v=WanGt1G6ScA

Task 3

- Getting to know your brain
  - https://www.youtube.com/watch?v=vHrmiy4W9C0

Task 10

- Can babies tell right from wrong?
  - https://www.youtube.com/watch?v=HBW5vdhr_PA&pbjreload=10

6. Lectures

There will be several lectures during this course and they are indicated in your personal timetable on StudentPortal. Lectures are not mandatory but the content of the lectures is exam material. There will be no recordings, though the slides will be made available on StudentPortal after the lecture. The content of the lectures may be related to the topics discussed in the same week but may also create new insights and angles regarding developmental psychology. Please be on time for the lecture if you wish to join.

7. How to contact the coordinator

Should you want to consult the course coordinator, you can do so by sending an e-mail to: eveline.persoon@maastrichtuniversity.nl . You can also ask the course coordinator directly and be

sure to check StudentPortal and your UM webmail because the course coordinator will also post announcements or share last minute information.

8. Course examination and grading

The course examination will consist of one test halfway and one test at the end on the course. The first halfway exam will test your knowledge on task 1 to 4. And the final exam will test your knowledge on task 5 to 10. Both tests will consist of essay questions and will account for 50% of your grade (see the table below). There will be one essay question per task and you will have 2 hours for each exam. The essay questions may include sub-questions. More information will be made available during the first lecture of the course. Next to the exams, you should also pass your attendance in order to validate your grade for this course. See the table below for more information about the exams and see "Mandatory attendance" below for more information about the attendance for this course. If you do not have a passing grade but you did meet all other requirements to pass the course you can apply for a resit.

When	Type of assessment	% Final grade
Overall	Mandatory Attendance	0%*
Course week 3	Exam essay questions – halfway exam (task 1-4)	50%
Course week 7	Exam essay questions – final exam (task 5-10)	50%

***Mandatory attendance is a condition for your final grade to be valid. For more information about the attendance see "Mandatory attendance".**

9. Mandatory attendance

For the tutorial groups the regularly mandatory attendance is applicable. Please make sure that you are well prepared for the tutorial meetings. See below for the information about the attendance regulations taken from the UCM student handbook:

For each of the courses, students receive a pass if each of the following requirements has been met: Students must have attended at least 85% of all tutorial group meetings to be allowed to take the final test of the course. Students who have not met the attendance requirement and who have not missed more than 30% of all meetings, will be given a provisional overall grade point for the course. To qualify for an additional assignment and thus to meet the attendance requirement, students must submit to the UCM, LAS/MSP or UCV Office of Student Affairs a completed request form for an additional assignment because of insufficient attendance, within 10 working days after completion of the course. Request for additional assignments can be submitted online via the portal of UCM, LAS/MSP or UCV. The course coordinator shall decide on the validity of the reasons given. If the course coordinator decides that a student has had valid reasons for not complying with the attendance percentage, s/he will be given an additional assignment within 10 working days after receipt of the online request. The nature and volume of the assignment will be proportional to the number of tutorials that were missed more than the attendance requirement allowed for. The assignment must be completed and submitted to the course coordinator concerned within 20 working days after the student has received the assignment. The result of the additional assignment has to be available before the end of the running academic year. Students, who receive a pass for the additional assignment, will be regarded as having met the attendance requirement and their provisional overall grade point will be declared valid. If the course coordinator decides that the

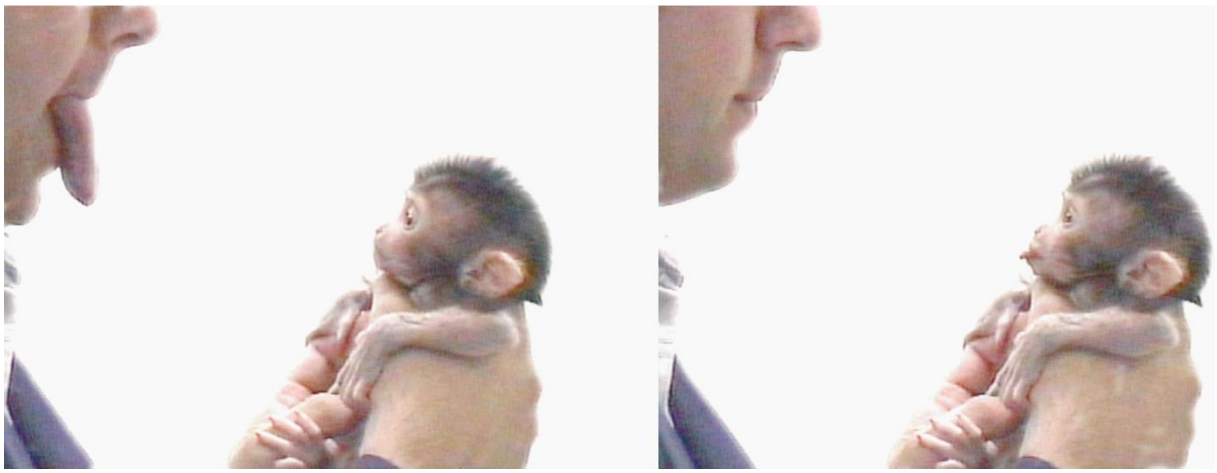
reasons for absence were not valid and/or if more than 30% of the meetings have been missed, no additional assignment will be given and the provisional overall grade point will be annulled.

10. StudentPortal

Many UM courses make use of an electronic learning environment (ELEUM). This course will do the same. You can access the ELEUM page for our course via your StudentPortal. All necessary information regarding this course, including your personal timetable, is available on StudentPortal. Be sure to check it regularly and keep an eye out for announcements.

11. Disclaimer pictures and links used for this course

All pictures and links in this course manual will be used for educational purposes only. We hereby also express that we do not own the rights to these pictures and links. Most pictures were found by the use of google.com. Using Google, we tried to use pictures that were labelled for reuse but unfortunately we were not able to select all pictures using this setting. However, all pictures were carefully selected because of their particular fit with the task or course and again, we only intend to use them for educational purposes. Pictures were not changed per se, although some were reduced or enlarged in size to fit the page. In some cases we altered the pictures to fit an educational purpose.

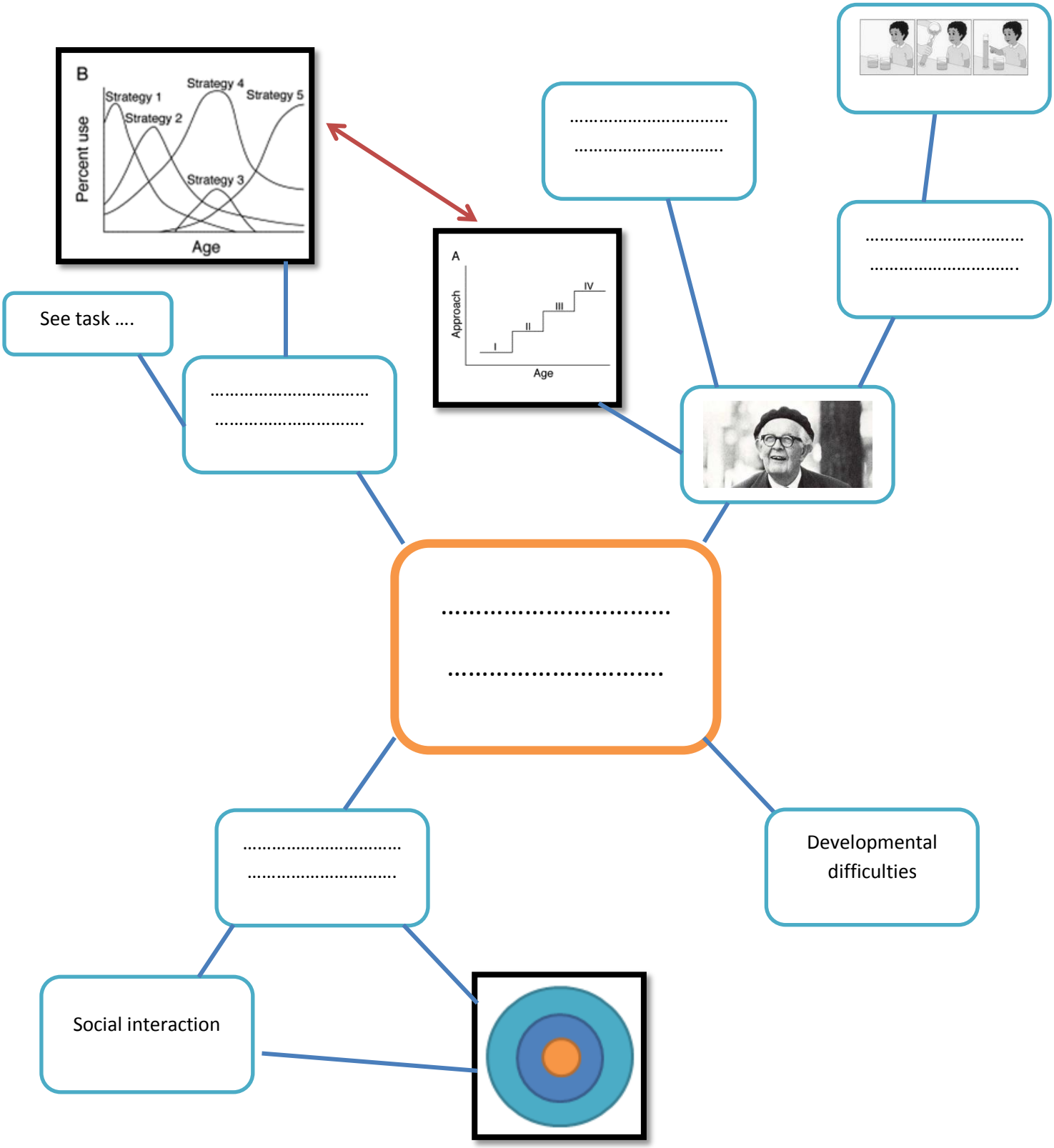


12. Tasks

Task 1 – Changes

"It is one thing to be clever and another to be wise." - George R.R. Martin

In groups of two, take a look at the mind-map below. Try to complete the mind-map by brainstorming about different topics that might be applicable. Feel free to extend the mind-map by including more boxes and/or connections. You can obviously also use the internet or other sources available to you.



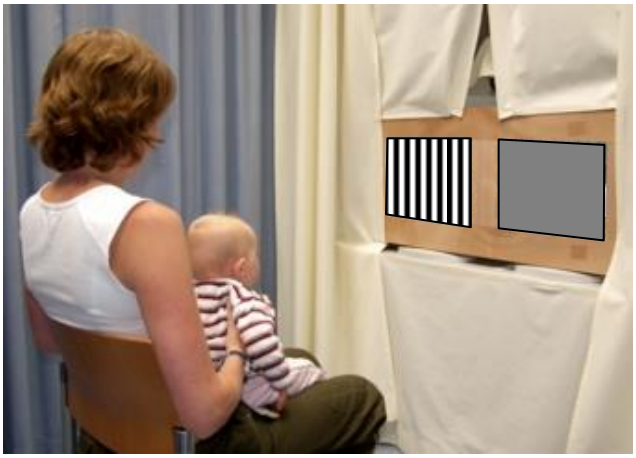
Task 2 – Increasing abilities

"The eye sees only what the mind is prepared to comprehend" –Robertson Davies

Asking an infant whether he or she sees a difference between one picture and another will not yield too much of a response. Maybe the infant will smile at you or look away because something is more interesting than the speech sounds the child just perceived by hearing your voice. However, infants can do more than we initially thought. Even an expert like Piaget underestimated the perceptual abilities of babies.

There are various ways to get access to the infant mind. In groups of two or three, take a look at the quiz below and try to answer each question.

1. A child is presented with two different stimuli. See the picture below.



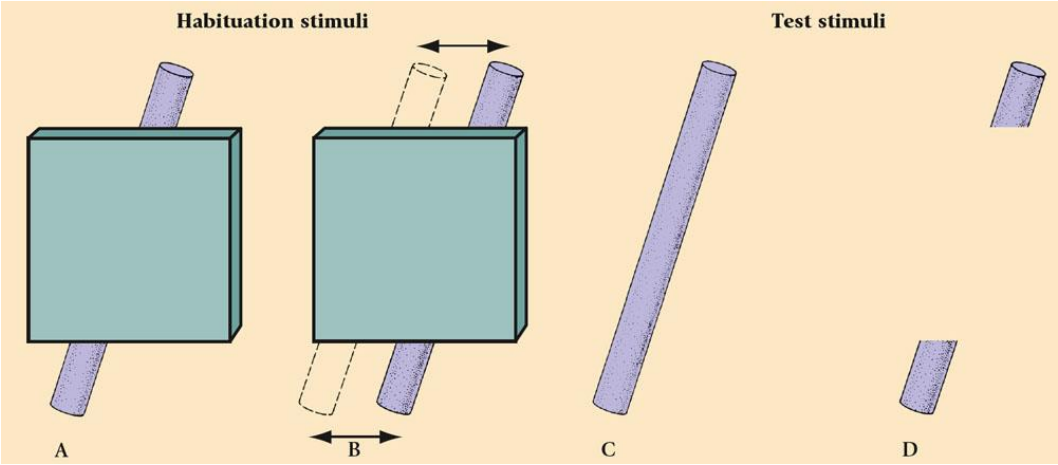
What can we determine as researchers?

   a. How long the infant looks at the stimuli
   b. Where the infant looks
   c. Both a and b are correct

2. See the image above for question 1. What is being measured?

……

3. An infant is habituated to stimulus A below.



What do you expect to happen when test stimulus C gets presented? And stimulus D?

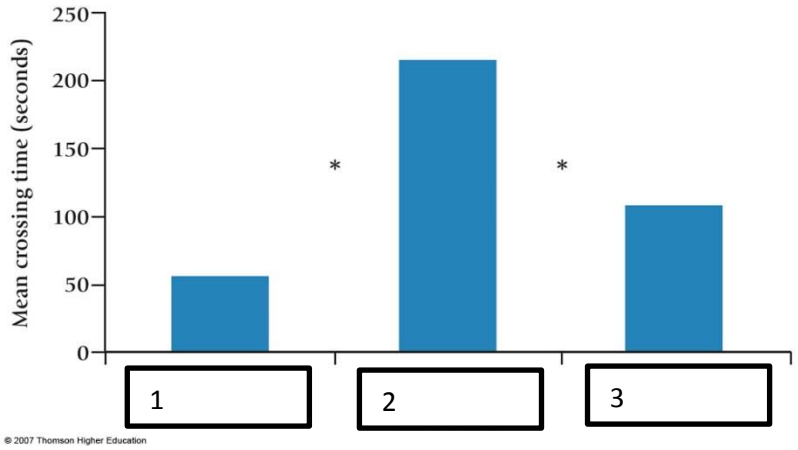
a. The child will look more at C, but less at D
b. The child will look less at C and less at D
c. The child will look less at C, but more at D

4. Regard the picture under question 3. A child gets habituated to stimulus B. The rod moves behind the square. What do you expect to happen when test stimulus C gets presented? And stimulus D?
   a. The child will look more at C, but less at D
   b. The child will look less at C and less at D
   c. The child will look less at C, but more at D

5. We can reward infants for a particular response. What do you expect to happen?
   a. An infant will suck on a pacifier at a random rate because they cannot distinguish yet between the mother's voice and someone else's voice
   b. An infant will suck on a pacifier at a specific rate to be able to hear the mothers' voice
   c. An infant will suck on a pacifier at a specific rate to be able to avoid hearing the mothers' voice

6. Intermodal perception means:
   a. The control an infant has over his or her senses
   b. The perception of unity by different senses
   c. Using distinct senses one at a time

7. The graph below is related to intermodal perception. It shows the mean time that it takes for a child to cross a visual cliff. There were three conditions. The child could see the face of the mother, hear the voice of the mother or see and hear their mother at the same time. Which bar represents which condition?

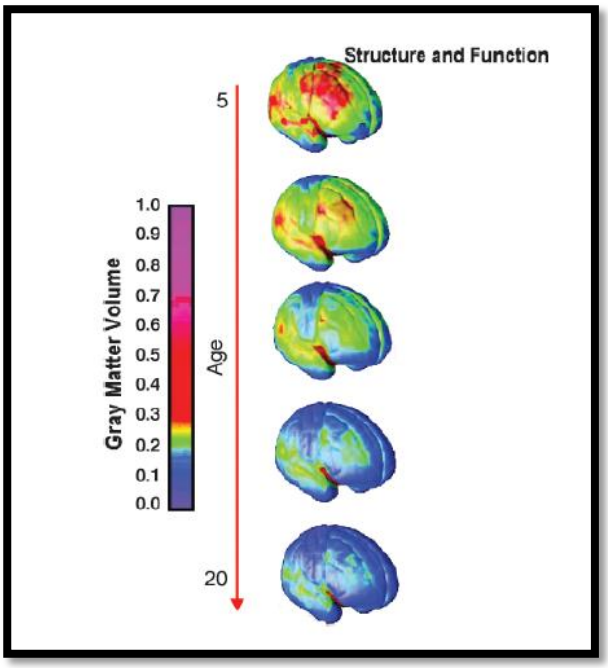


Task 3 – What's in a brain? That which we call brain activity…

"It is the brain, the little gray cells on which one must rely. One must seek the truth within - not without." – Hercule Poirot (Agatha Christie)

Dr. Michael is a neuropsychological expert and he is specialized in brain maturation. He is going to start his lecture on overall brain development soon. Oh wait, there he is, adjusting his microphone. Let's tune in for a second before we start our pre-discussion.

"Welcome students! Welcome to my lecture about overall brain maturation. It is a big process with a lot of functional and structural changes. Some terms that may come to mind are white matter and grey matter. Let's check out this next picture together. You are all familiar with brain-anatomy right? Yes? Good, let's take a closer look and discuss what might be going on as the brain matures and how this relates to cognitive development."



Okay, let's leave Dr. Michael to his lecture because a lot of students need to pay attention and we need to continue our discussion. Ah wait! There is Morgan arriving late for the lecture. She is a developmental psychology student and she just came from a meeting with her Master Thesis supervisor. She has to design a research proposal for her Master Thesis. She discusses the following ideas with her supervisor:

- Difference in brain activity between bilingual and monolingual children on a language task on a phonological task
- Changes in prefrontal cortex activity during a working memory task between 4 year olds and 6 year olds
- Something with emotional face processing in children with and without the diagnosis ASD. Not necessarily location wise (so where in the brain) but maybe concerning the speed/timing of processing in the brain.

Morgan's supervisor is interested in Morgan's ideas but argues that the ideas need very different kinds of research methods to image brain activity. She wants to know what interests Morgan most and suggests that Morgan looks at each idea in a bit more detail, especially which methods to use.

Task 4 – From "gaaa" to "water" (or "l'eau")

"Words are, in my not-so-humble opinion, our most inexhaustible source of magic." – Professor Dumbledore (J.K. Rowling)

As our pre-discussion we will watch three YouTube clips.

Part 1

After the first clip, you will have 10-15 minutes to construct a mind-map on language development in teams of three. Include all your prior knowledge on this subject, especially if you've followed the course "Introduction to Psychology".

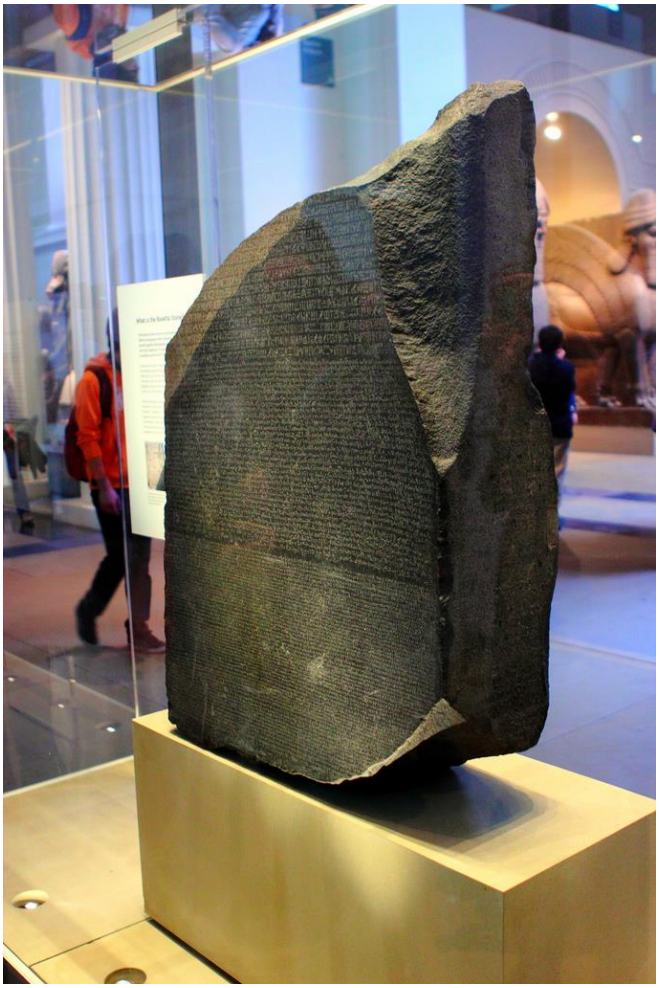
Clip 1 – The birth of a word (first 6 minutes only):
https://www.ted.com/talks/deb_roy_the_birth_of_a_word#t-889896

Part 2

We will now take a look at clip 2 and 3 and you again have 10-15 minutes to include information about the topics of clip 2 and 3 in your mind-map. Be sure to include in the mind-map how these specific phenomena might relate to the brain.

Clip 2 - Dyslexia:
https://www.youtube.com/watch?v=zafiGBrFkRM

Clip 3 - Bilingualism:
https://www.youtube.com/watch?v=MMmOLN5zBLY



Task 5 – My socks are in the dryer

"There's nowhere you can be that isn't where you're meant to be..." – John Lennon

Besides the theories of Piaget and Vygotsky, there are other theories on cognitive development. A prominent one and the one relevant for this task was included in the mind-map for task 1. Remember the graphs with the waves? Welcome to the information processing theory!

1.

Scene: daughter and father in their yard. A friend of the daughter comes by on a bike

Child: Daddy would you unlock the basement door?

Father: Why?

C: 'Cause I want to ride my bike.

F: Your bike is in the garage.

C: But my socks are in the dryer.

What reasoning could have produced this girl's enigmatic comment, "But my socks are in the dryer"? Prof. David Klahr, a prominent information processing theorist formulated the following model of the thought process that led to it:

Top goal: I want to ride my bike.

Bias: I need shoes to ride comfortably.

Fact: I'm barefoot.

Subgoal 1: Get my sneakers.

Fact: The sneakers are in the yard.

Fact: They're uncomfortable on bare feet.

Subgoal 2: Get my socks.

Fact: the sock drawer was empty this morning.

Inference: The socks probably are in the dryer.

Subgoal 3: Get them from the dryer.

Fact: The dryer is in the basement.

Subgoal four: Go to the basement.

Fact: It's quicker to go through the yard entrance.

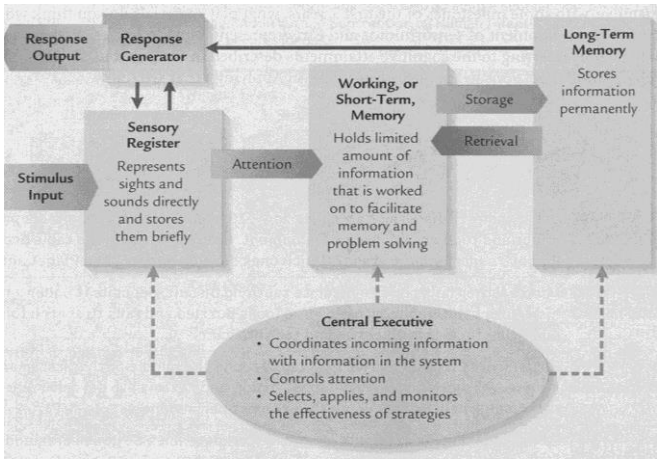
Fact: the yard entrance is always locked.

Subgoal 5: Unlock the door to the basement.

Fact: Daddies have the keys to everything

Subgoal 6: Ask daddy to unlock the door

Prof. Klahr's analysis of his daughter's thinking illustrates several notable characteristics that are common to information processing theories. See also the picture below.



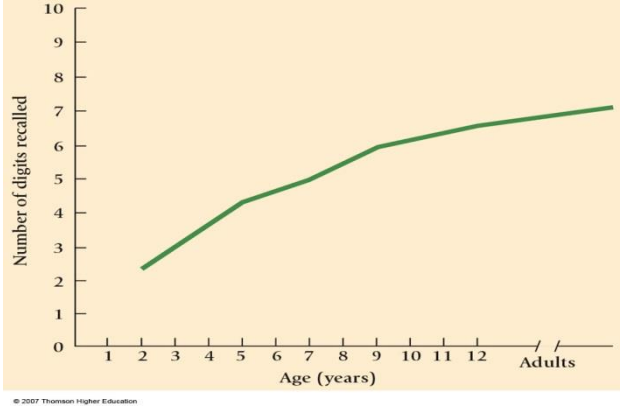
2.

Prof Klahr performs several experiments in his laboratory to investigate the information processing skills of children.

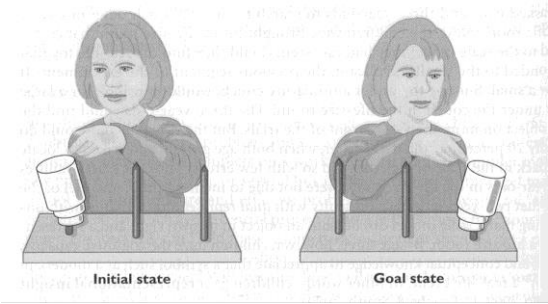
Experiment 1:

Participants are a group of four and ten-year-old children. Each child watches four segments of a tv-show for fourteen minutes, half the time with several distracting toys in the room and half the time without toys. All participants are told they have to answer some questions about the televised segments at the end of the viewing periods. According to prof Klahr this experiment addresses the development of sustained as well as selective attention. What do you predict?

Experiment 2:



Experiment 3:



At what age are children able to solve this task?

Task 6 – A strange situation…

"We're only as needy as our unmet needs." – John Bowlby

1.
Melanie, an 18-month-old child, is playing on the floor with her blocks. Her mother, who has just finished some work, turns around and looks at Melanie. She says to her: "Those are nice blocks, Melanie. You're building a beautiful tower with the blocks." Melanie laughs. Her mother picks up a book and starts to read. After some time, when Melanie has finished building her tower, she walks over to her mother with a children's book in her hand. "Book," says Melanie while she tries to crawl into the lap of her mother. Mother puts Melanie onto her lap and lays down her own book. She then says: "Do you want me to read this book to you?" Melanie responds: 'Yeah!" and her mother begins to read.

In the house next door, Cindy — also a baby of 18 months — is playing on the floor while her mother has just finished some work. Mother says: "Come here, Cindy, and I'll read you a story." Cindy looks up but then continues to build a tower, which has her undivided attention. Mother walks over to Cindy and says: "Come on, let's read a book", picks up Cindy, and gives her a hug. Cindy tries to free herself and starts to whine. Mother puts her down, and Cindy continues building a tower. When she has finished the tower a little bit later, she takes a book and tries to climb up onto her mother's lap and says "book". Mother says: "No, you didn't want to read when I asked you. I'm busy now".

2.
Kathy, a 20-month-old girl, is admitted to a shelter in connection with the admission of her mother to a hospital. During the first three days, Kathy cries almost continually and calls for her mother all the time. She refuses to do anything with the group leader, she does not eat much, and she does not want to dress or undress. Although this behaviour decreases during the following days, it is still apparent at bedtime and throughout the night. After the first week, Kathy stops crying. She sits quietly in the play room and regularly asks the group leader to go upstairs with her. When asked what she expects to find there, Kathy says without hesitation: "mommy".
During the next few days, Kathy seeks contact with the group leader more often and is increasingly more open to affection from the group leader. She starts to play, laugh, and interact. Fifteen days later, Kathy's mother returns to pick up her daughter. Kathy does not appear to recognize her

mother and walks away from her. Upon their return home, Kathy hangs on her mother and never lets her out of her sight. She also panics when her mother gets ready to go somewhere.

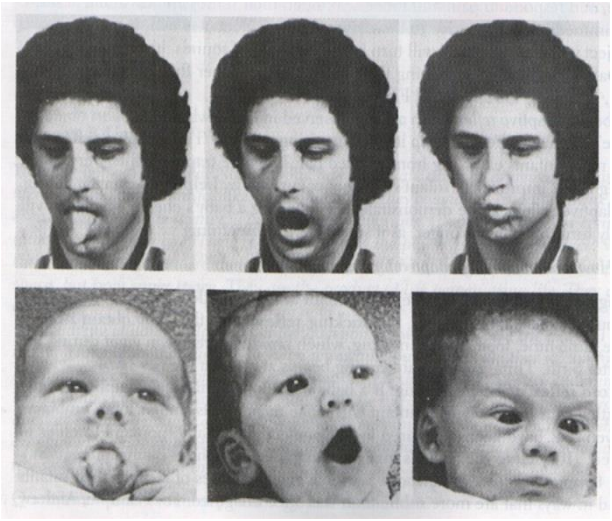
3.
Attachment around the word?

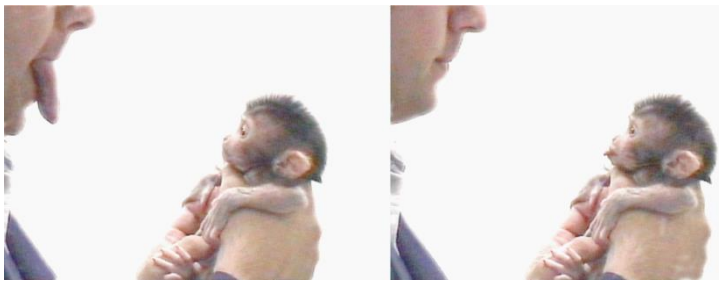
Problem 7 – Happy marshmallows

"The emotional qualities are antagonistic to clear reasoning." – Arthur Conan Doyle (The Sign of Four)

1.
Look at these cute babies. One is laughing. Is it an expression of joy? The other is crying. Is it an expression of anger?

2.
In the UCM course "Introduction to Psychology" you might have already encountered the picture of the human baby imitating adult face expressions. Do you remember the function of this form of imitation and do you think this human baby understands the emotional expressions of the adult? What about the fact that a neonate rhesus monkey can do almost the same?





Going back to the visual cliff experiment discussed in problem 2. Did the 12 month old children in that experiment recognize the emotional cues of their mother?

3.
Even at a very young age, babies can be very different, at least according to their parents:

"Peter is a very content baby, which is nice. He established a regular feeding and sleeping schedule right after birth. It is easy to comfort him and he sleeps a lot."

"Emma is different, she is very active. She even moves a lot in her sleep. She hears every little noise. She wakes up easily and is immediately wide-awake. Emma's sleeping and eating schedule is unpredictable. When she cries it is more like screaming. Whatever I do, I am not able to calm her down."

4.
When Peter and Emma are four years old, they are invited to the laboratory to perform a test. They are tested separately. An experimenter shows them some treat, like M&Ms, marshmallows or pretzels and explains they have two choices. If they wait until she returns to the room, they can have two of the treats, or if they wish, they can ring a bell and the experimenter will return immediately. However, if they ring the bell they will get only one treat.
Peter and Emma are then left alone for a considerable period of time (15-20 min.), or until they ring the bell. How do you think Peter will react? What about Emma? What would you predict for older children?

Task 8 – Hissy fits…

"An eye for an eye only ends up making the whole world blind." – Mahatma Gandhi

1.

2.

Watch the following YouTube clip:

https://www.youtube.com/watch?v=g8CRh6xgJcg

Task 9 – Mindreading

"What you have to understand is, four days ago he was only my brother in name. And this morning we had pancakes." – Charlie (Rain Man)

As a pre-discussion, using your computer or smartphone, please find the following article using Google Scholar and your UM account (just copy past the reference below) and read it for yourself:

Nordahl-Hansen, A., Øien, R. A., & Fletcher-Watson, S. (2017). Pros and Cons of Character Portrayals of Autism on TV and Film. ***Journal of autism and developmental disorders*****, 1-2.**

Task 10 – Can I help you?

"R2-D2, it is you! It is you!" – C3PO (Star Wars)

Children as young as 14 month help others. For example, they spontaneously help an adult when the adult is not able to stacks books in a cabinet. Similar behaviours were observed in chimpanzees, but there were also differences. What could these similarities and difference between humans and chimpanzees imply?

Environmental factors may also have an impact on the developmental trajectory of helping behaviour. Can you think of some?