

Course Unit	Learning and Cognition		Field of study	Psychology	
Master in	Science Education		School	School of Education	
Academic Year	2020/2021	Year of study	1	Level	2-1
Type	Semestral	Semester	1	ECTS credits	6.0
Workload (hours)		162	Contact hours	T -    TP 36    PL -    TC -    S -    E -    OT 18    O -	
<small>T - Lectures; TP - Lectures and problem-solving; PL - Problem-solving, project or laboratory; TC - Fieldwork; S - Seminar; E - Placement; OT - Tutorial; O - Other</small>					

Name(s) of lecturer(s) Ana Raquel Russo Prada, Rosa Maria Ramos Novo

### Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:

1. Identify neuroscience contributions to learning.
2. Differentiate concepts and core principles from theories of cognition, cognitive development and learning.
3. To design an educational strategy related to the area of teaching and based on the theories learned.
4. Reflect on teacher mediation in science classes.

### Prerequisites

Before the course unit the learner is expected to be able to:  
None.

### Course contents

1. Learning and Cognition: what relationship?
2. Some theories of Learning and Cognition
3. Learning strategies
4. Educational implications.

### Course contents (extended version)

1. Learning and Cognition: what relationship?
  - Cognition: of associationist era to the cognitivist era.
  - Neuroscience contributions on learning.
2. Some theories of Learning and Cognition.
  - The theory of cognitive processing of information on learning.
  - The role of attention.
  - The role of perception.
  - The role of memory.
  - The role of metacognition.
  - The theory of cognitive social learning.
  - Socio-constructivist perspectives.
3. Learning strategies.
  - Peer learning.
  - Cooperative learning.
  - Teaching dialogues.
  - Problem-based learning.
4. Educational implications.
  - Analysis of teacher mediation complexity.

### Recommended reading

1. Frieman, J., & Reilly, S. (2016). Learning: a behavioral, cognitive, and evolutionary synthesis. Sage Publishing.
2. Gleitman, H., Fridlund, A., & Reisberg, D. (2011). Psicologia. Fundação Calouste Gulbenkian.
3. McBride, D., & Cutting, J. (2019). Cognitive psychology: theory, process and methodology. Sage Publications.
4. Reynolds, W. M., & Miller, G. E. (Eds). (2013). Handbook of psychology: educational psychology (Vol. 7). John Wiley & Sons.
5. Sternberg, R., & Sternberg, K. (2017). Cognitive psychology. Cengage Learning.

### Teaching and learning methods

Debate/discussion sessions, lectures and text-analysis.

### Assessment methods

1. Continuous assessment - (Regular, Student Worker) (Final)
  - Practical Work - 50% (Practical Work.)
  - Presentations - 50% (Evaluation / discussion of the practical work.)
2. Final Exam - (Regular, Student Worker) (Supplementary, Special)
  - Final Written Exam - 100%

### Language of instruction

Portuguese

### Electronic validation

Ana Raquel Russo Prada, Rosa Maria Ramos Novo	Ana Raquel Russo Prada	Delmina Maria Pires	António Francisco Ribeiro Alves
16-12-2020	16-12-2020	16-12-2020	16-12-2020