UCLouvain

llogo1324

2021

Digital development and dyscalculia

4.00 credits	30.0 h	Q1

Teacher(s)	Noël Marie-Pascale ;
Language :	French
Place of the course	Louvain-la-Neuve
Learning outcomes	
Evaluation methods	The certification evaluation is carried out in two parts: on the one hand, the oral presentation of a precise synthesis carried out in a team on one of the topics covered by the course and on the other hand, by a written exam containing mostly open questions requiring a short and precise answer. The exam may also include some multiple choice questions. During the September session, if a very small number of students are registered for the exam, the teacher may decide to propose an oral exam instead of a written exam.
Teaching methods	This year, the course will alternate between a few lectures (the first and last) and presentations by teams of students.
Content	Topics: Cognitive bases of digital development in children and dyscalculia - Pre-numerical tools in babies, including the analog line metaphor (or ANS: approximate number system) - Counting (development of the verbal numerical chain) and enumeration (principles and development of the cardinal value of number words) - Symbolic codes : - oral/written verbal numbers, arabic numbers, lexicon, syntax, transcoding - base 10 representation - Access to the magnitude of large numbers - Link between these basic numerical capabilities and arithmetic performance - Calculation : 1. o Sensitivity to additions-removals in babies; non-verbal calculations in infants, approximate calculation ; 2. o strategy development, Siegler's association distribution model, base 10 for complex calculations - word problem solving - Rational numbers: decimal numbers and fractions - Dyscalculia : 1. o definition, prevalence, difficulties presented, associations with other disorders, 2. o causal hypotheses (genetic contribution; role of general cognitive factors, deficit in basic numerical factors, etc.) 3. o neuro-functional correlates 4. - Rehabilitation and experimental training - Special issues that may be considered: 1. relationship between fingers and numbers ; 2. hypersensitivity to interference in arithmetic fact deficits; 3. deficit of the semantic representation of number in visuo-spatial dyspraxias.
Inline resources	Pdf documents correspoding to the slides of the course are available on moodle. Other ressource: a synthesis from INSERM http://www.ipubli.inserm.fr/bitstream/handle/10608/110/Synthese.html#titre_n1_10
Bibliography	Ouvrages de référence: Noël, M-P & Karagiannakis, G. (2020). Dyscalculie et difficultés d'apprentissages. Guide pratique de prise en charge.
Other infos	Assessment : individual written examination Support: documents, powerpoint presentations etc available on iCampus, references to published articles
Faculty or entity in charge	ELOG

Programmes containing this learning unit (UE)

Program title	Acronym	Credits	Prerequisite	Learning outcomes
Bachelor in Psychology and Education : Speech and Language Therapy	LOGO1BA	4		