PANNON EGYETEM

Tárgytematika

Félév:	2025/26/2
Tárgynév:	Bilingual Visual Word Recognition
Tárgykód:	PEDITNY100
Felelős szervezet neve:	Többnyelvűségi Nyelvtudományi Doktori Iskola
Felelős szervezet kódja:	DITNY
Tárgyfelelős neve:	Dr. Ihász Petra

Oktatás célja:

The aim of the course is to provide in-depth knowledge of the neurolinguistic investigation of bilingual visual word recognition, with a special focus on event-related potentials (ERPs) and their interpretation. The course introduces major models of the bilingual mental lexicon, cognitive processes of visual word recognition, and the methodology and data analysis of EEG/ERP research.

The course contributes to the development of the following competences:

- **Knowledge:**
- understands key theories of bilingualism, the mental lexicon and visual word recognition;
- has an overview of the basics of EEG/ERP methods and core components (P100, N170, N400) in language processing tasks.
- **Skills:**
- is able to design and critically evaluate ERP-based experiments (language decision, lexical decision test, etc.);
- can independently analyse and synthesise research articles in neurolinguistics and psycholinguistics and apply their findings to their own research.
- **Attitudes:**
- is open to interdisciplinary, cognitive neuroscience approaches to language;
- maintains a reflective and ethical stance towards experimental research involving human participants.
- **Autonomy and responsibility:**
can independently formulate and defend their own research questions and methodological choices

Tantárgy tartalma:

The course provides an overview of research on bilingualism, models of the bilingual mental lexicon and the cognitive and neural basis of visual word recognition. Students are introduced to the language-related brain areas, basics of EEG recording, ERP components and phenomena observed in bilingual reading (homograph effect, word vs. non-word and pseudo-word recognition, phonological awareness, etc).

The course covers language decision and lexical decision tasks, construction of experimental materials, steps of data collection and processing, as well as the interpretation of reaction time and ERP results.

Számonkérési és értékelési rendszere:

- active participation in class

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Számonkérési és értékelési rendszere:

- research proposal for an ERP-based or behavioral experiment in bilingual visual word recognition

- participation in class
- submission of the home assignment

  Within the course, AI-based tools (e.g. large language models, machine translation, recommender systems in reference managers) may be used as supporting tools, not as primary content generators.

Kötelező és ajánlott irodalom:

Ihász, P. (2023). *Event-Related Potentials in the Study of Hungarian-English Bilingual Visual Word Recognition*. PhD értekezés, Pannon Egyetem.

- Carreiras, M., Armstrong, B. C., Perea, M., Frost, R. (2013). The what, when, where, and how of visual word recognition. Trends in Cognitive Sciences, 18(2), 90–98. https://doi.org/10.1016/j.tics.2013.11.005
- Cook, V. J. (2003). The changing L1 in the L2 user's mind. In V. J. Cook (ed.), Effects of the second language on the first. Clevedon: Multilingual Matters, 1–18.
- De Groot, A. (2011). Language and Cognition in Bilinguals and Multilinguals. New York: Psychology Press.
- Dijkstra, T. – Van Heuven, W. J. B. (2002). The architecture of the bilingual word recognition system: From identification to decision. Bilingualism: Language and Cognition 5, 175-197.
- Elston-Güttler, K. E., Gunter, T. C., & Kotz, S. A. (2005). Zooming into L2: Global language context and adjustment affect processing of interlingual homographs in sentences. Cognitive Brain Research, 25(1), 57-70.
- Grosjean, F. (2010). Bilingual. Boston: Harvard University Press
- Grosjean, F. (2016). What is Different in the Bilingual Brain?
- Laszlo, S., & Armstrong, B. C. (2013). Applying the dynamics of postsynaptic potentials to individual units in simulation of temporally extended ERP reading data. In Proceedings of the 35th Annual Conference of the Cognitive Science Society (Knauff, M. et al., eds), pp. 2826–2831, Cognitive Science Society DOI: 10.1016/j.bandl.2014.03.002
- Maurer, U., Brandeis, D., & McCandliss, B. D. (2005). Fast, visual specialization for reading in English revealed by the topography of the N170 ERP response. Behav. Brain Funct. 1, 13 doi: 10.1186/1744-9081-1-13.
- Navracsics, J. (2007). Word classes and the bilingual mental lexicon. Research Gate
- Navracsics, J. – Sáry, Gy. (2013). Vizuális szófelismerés a kétnyelvűségben. Alkalmazott Nyelvtudomány, XIII. évf. 1-2. szám 2013.
- Trafton, A. (2014). In the blink of an eye – MIT neuroscientists find the brain can identify images seen for as little as 13 milliseconds. MIT News Office

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Tárgyfelelős neve: Dr. Ihász Petra

Kötelező és ajánlott irodalom:

- Van Assche, E., Duyck, W., Hartsuiker, R. J., & Diependaele, K. (2009). Does bilingualism change native-language reading? Cognate effects in a sentence context. Psychological Science, 20(8), 923-927.
- Yum, Y. N., & Law, S-P. (2021). N170 reflects visual familiarity and automatic sublexical phonological access in L2 written word processing. Bilingualism: Language and Cognition 24, 670–680. https://doi.org/10.1017/S1366728920000759

Készségek és komptenciák