

Efficacy of Semantic Feature Analysis for Individuals with Chronic Expressive Aphasia: A Critically Appraised Topic

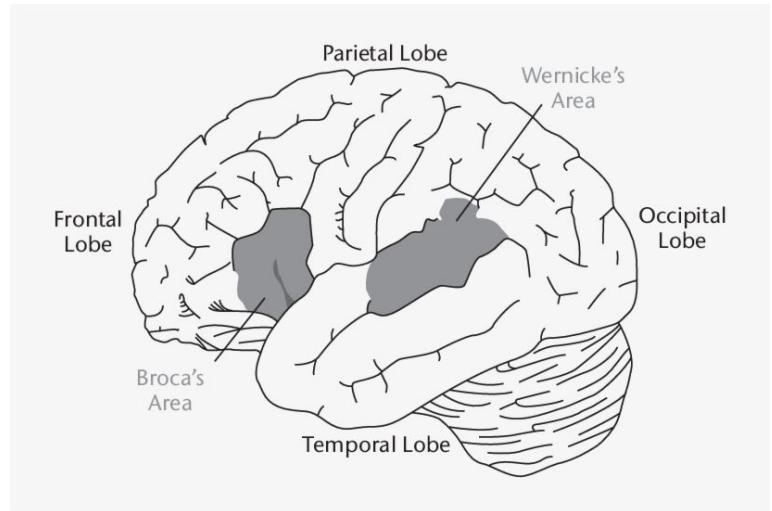
Carly Blose, B.A.

Candidate for M.A. in Speech-Language Pathology



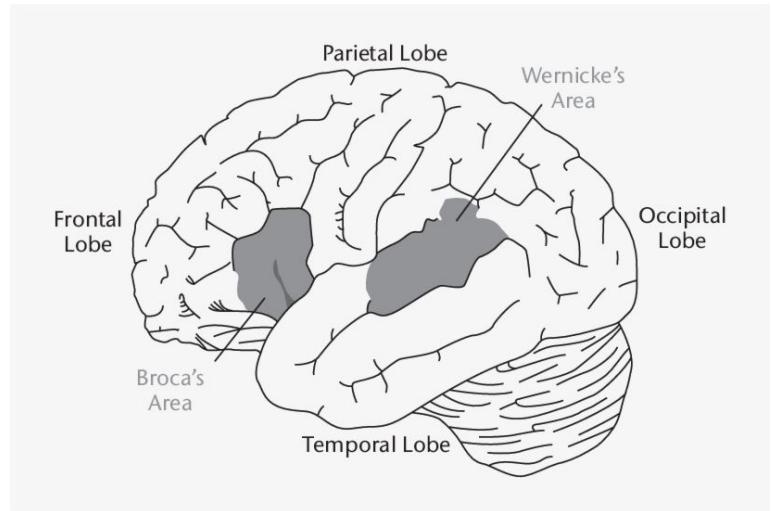
Introduction

- What is aphasia?
- Non-fluent (expressive) aphasia
- Chronic aphasia
 - 5+ years
- Treatment
 - Semantic Feature Analysis (SFA)



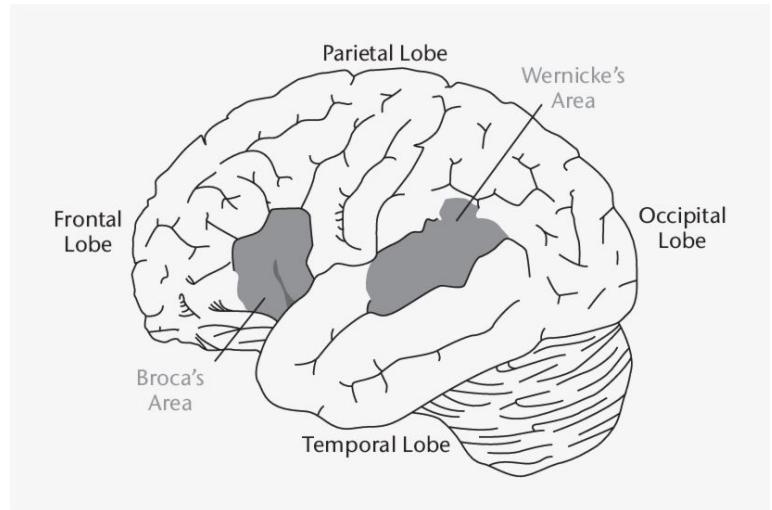
Introduction

- What is aphasia?
- Non-fluent (expressive) aphasia
- Chronic aphasia
 - 5+ years
- Treatment
 - Semantic Feature Analysis (SFA)



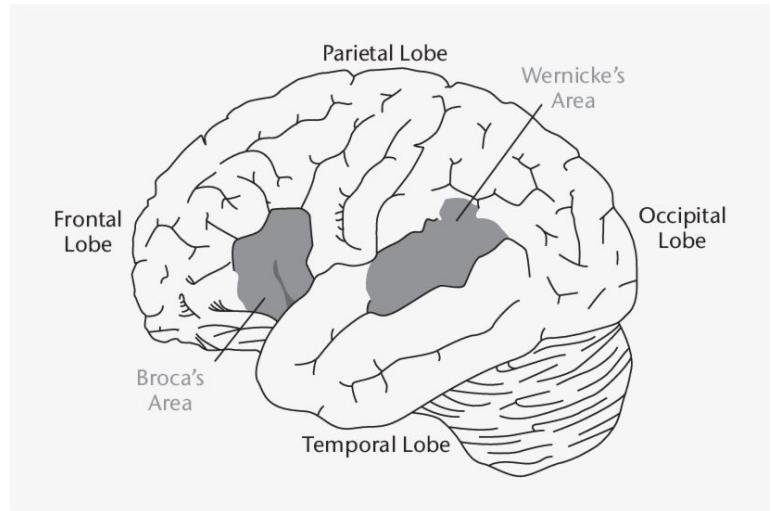
Introduction

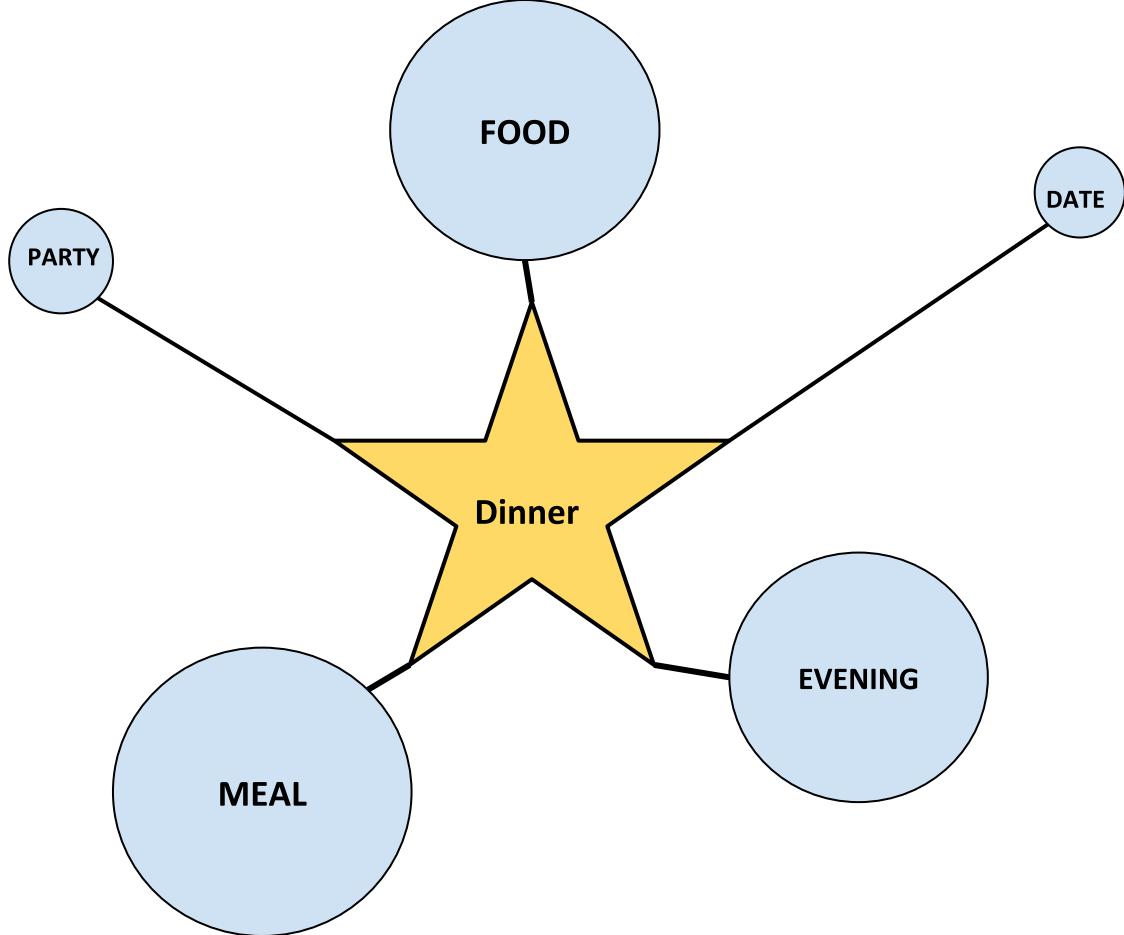
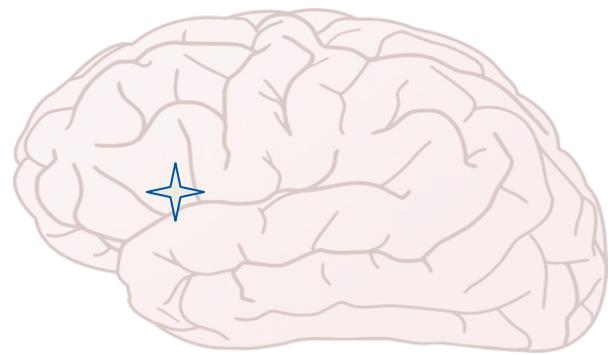
- What is aphasia?
- Non-fluent (expressive) aphasia
- Chronic aphasia
 - 5+ years
- Treatment
 - Semantic Feature Analysis (SFA)



Introduction

- What is aphasia?
- Non-fluent (expressive) aphasia
- Chronic aphasia
 - 5+ years
- Treatment
 - Semantic Feature Analysis (SFA)





Example



Introduction

- What is aphasia?
- Non-fluent (expressive) aphasia
- Chronic aphasia
 - 5+ years
- Treatment
 - Semantic Feature Analysis
- Is Semantic Feature Analysis an effective intervention for people with non-fluent aphasia who are five or more years post-stroke?



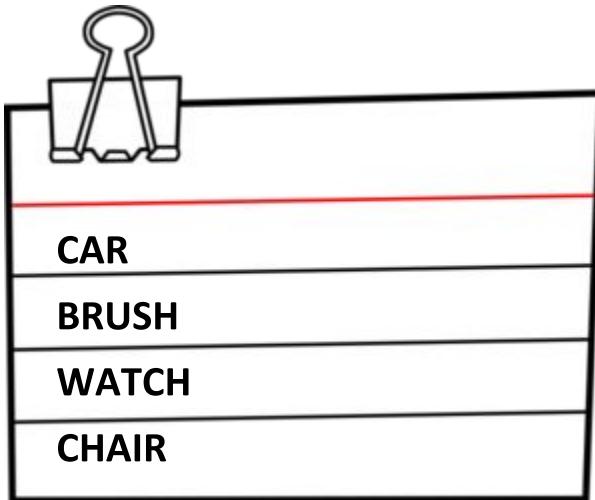
Methods

Demographic and Clinical Information for Participants

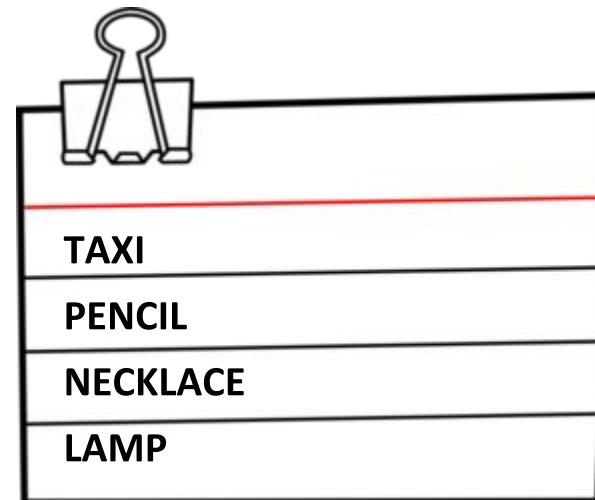
Study	Participant	Age	Gender	Months Post Onset (MPO)	Aphasia Type (Severity)
Boyle & Coelho, 1995	P1	57	M	65 (5 years, 4 mo)	Broca (Mild)
Rider et al., 2008	P3	62	M	126 (10 years, 6 mo)	Broca (Moderate)
Marcotte & Ansaldo, 2010	P1	66	M	84 (7 years)	Broca (Severe)
Wambaugh et al., 2014	P3	55	M	79 (6 years, 7 mo)	Broca (Moderate)
Wallace & Kimelman, 2013	P3	57	F	134 (11 years, 2 mo)	Broca
Hashimoto & Frome, 2011	P1	72	F	120 (10 years)	Broca

Results

Trained Words



Untrained Words



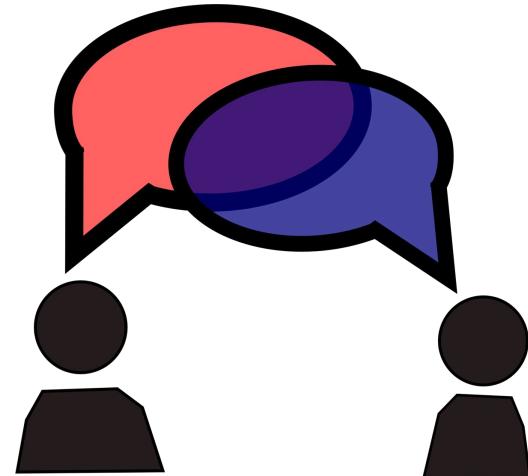
Results

- Discourse and Connected Speech
 - Correct Information Units (CIUs)
 - Number of target words
 - Lexical Diversity
- Functional Communication and Peer Report
 - Communicative Effectiveness Index (CEFI)



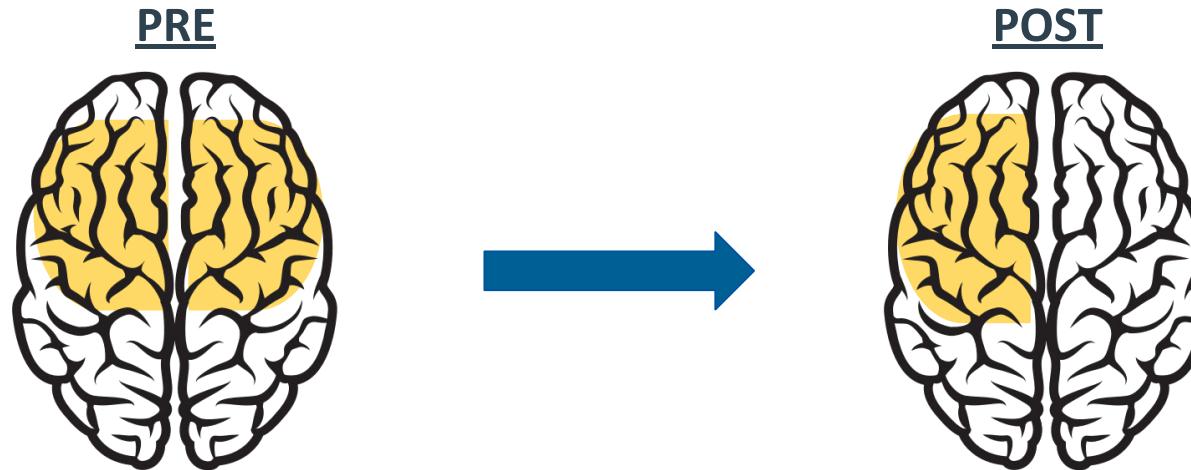
Results

- Discourse and Connected Speech
 - Correct Information Units (CIUs)
 - Number of target words
 - Lexical Diversity
- Functional Communication and Peer Report
 - Communicative Effectiveness Index (CEFI)



Results

Functional Magnetic Resonance Imaging (fMRI)



Discussion

- Improvements in Confrontation Naming of Trained Words
- Improvements in Confrontation Naming of Untrained Words
- Improvements in Discourse and Connected Speech
- Changes in Brain Imaging



Discussion

- Improvements in Confrontation Naming of Trained Words
- **Improvements in Confrontation Naming of Untrained Words**
- Improvements in Discourse and Connected Speech
- Changes in Brain Imaging



Discussion

- Improvements in Confrontation Naming of Trained Words
- Improvements in Confrontation Naming of Untrained Words
- **Improvements in Discourse and Connected Speech**
- Changes in Brain Imaging



Discussion

- Improvements in Confrontation Naming of Trained Words
- Improvements in Confrontation Naming of Untrained Words
- Improvements in Discourse and Connected Speech
- Changes in Brain Imaging



Discussion

Limitations/Considerations

- Amount of research available
- “Chronic”
- Differences in administration
- Semantic relatedness of untrained words
- Treatment dose and duration
- Line drawings



Discussion

Limitations/Considerations

- Amount of research available
- “Chronic”
- Differences in administration
- Semantic relatedness of untrained words*
- Treatment dose and duration
- Line drawings



Conclusion

SFA is at least as effective for people with chronic aphasia as it is for individuals with acute aphasia.



Questions?



References

- Brady, M. C., Kelly, H., Godwin, J., & Enderby, P. (2012). Speech and language therapy for aphasia following stroke. doi:10.1002/14651858.CD000425.
- Boyle, M., & Coelho, C. A. (1995). Application of semantic feature analysis as a treatment for aphasic dysnomia. *American Journal of Speech-Language Pathology*, 4(4), 94-98. doi:10.1044/1058-0360.0404.94
- Efstratiadou, E. A., Papathanasiou, I., Holland, R., Archonti, A., & Hilari, K. (2018). A systematic review of semantic feature analysis therapy studies for aphasia. *Journal of Speech, Language, and Hearing Research: JSLHR*, 61(5), 1261-1278. doi:10.1044/2018_JSLHR-L-16-0330
- Elman, R. J., & Bernstein-Ellis, E. (1999). The efficacy of group communication treatment in adults with chronic aphasia. *Journal of Speech, Language, and Hearing Research*, 42(2), 411-419. doi:10.1044/jslhr.4202.411
- Fridriksson, J. (2011). Measuring and inducing brain plasticity in chronic aphasia. *Journal of Communication Disorders*, 44(5), 557-563. doi:10.1016/j.jcomdis.2011.04.009
- Fridriksson, J., Bonilha, L., Baker, J. M., Moser, D., & Rorden, C. (2010). Activity in preserved left hemisphere regions predicts anomia severity in aphasia. *Cerebral Cortex (New York, N.Y.: 1991)*, 20(5), 1013-1019. doi:10.1093/cercor/bhp160
- Gravier, M. L., Dickey, M. W., Hula, W. D., Evans, W. S., Owens, R. L., Winans-Mitrik, R. L., & Doyle, P. J. (2018). What matters in semantic feature analysis: Practice-related predictors of treatment response in aphasia. *American Journal of Speech-Language Pathology*, 27(1S), 438-453. doi:10.1044/2017_AJSLP-16-0196
- Hashimoto, N., & Frome, A. (2011). The use of a modified semantic features analysis approach in aphasia. *Journal of Communication Disorders*, 44(4), 459-469. doi:10.1016/j.jcomdis.2011.02.004
- Kleim, J. A., & Jones, T. A. (2008). Principles of experience-dependent neural plasticity: Implications for rehabilitation after brain damage. *Journal of Speech, Language, and Hearing Research*, 51(1), S225-S239. doi:10.1044/1092-4388(2008/018)
- Lomas, J., Pickard, L., Bester, S., Elbard, H., Finlayson, A., & Zoghaib, C. (1989). The communicative effectiveness index: Development and psychometric evaluation of a functional communication measure for adult aphasia. *Journal of Speech and Hearing Disorders*, 54(1), 113-124. doi:10.1044/jshd.5401.113
- Marcotte, K., Adrover-Roig, D., Damien, B., de Préamont, M., Généreux, S., Hubert, M., & Ansaldi, A. I. (2012). Therapy-induced neuroplasticity in chronic aphasia. *Neuropsychologia*, 50(8), 1776-1786. doi:10.1016/j.neuropsychologia.2012.04.001

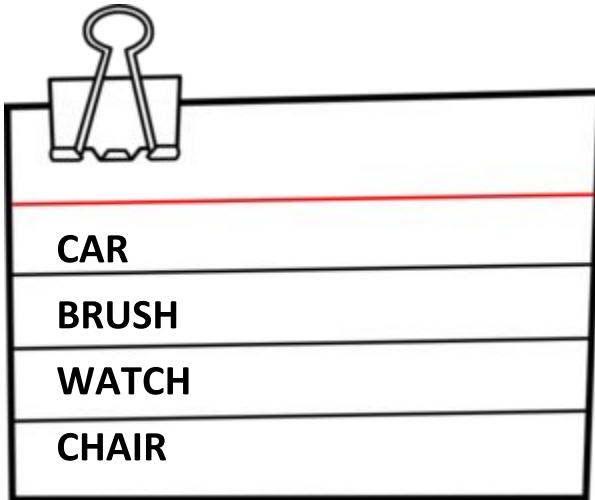
References

- Marcotte, K., & Ansaldi, A. I. (2010). The neural correlates of semantic feature analysis in chronic aphasia: Discordant patterns according to the etiology. *Seminars in Speech and Language*, 17(1), 52. doi:10.1055/s-0029-1244953
- Mensah, G. A., Norrving, B., & Feigin, V. L. (2015). The global burden of stroke. *Neuroepidemiology*, 45(3), 143-145. doi:10.1159/000441082
- Mozeiko, J., Myers, E. B., & Coelho, C. A. (2018). Treatment response to a double administration of constraint-induced language therapy in chronic aphasia. *Journal of Speech, Language, and Hearing Research: JSLHR*, 61(7), 1664-1690. doi:10.1044/2018_JSLHR-L-16-0102
- Papathanasiou, I. & Coppens, P. (2017). *Aphasia and related neurogenic communication disorders* (2nd ed.). Burlington, MA: Jones & Bartlett Learning, LLC.
- Quique, Y. M., Evans, W. S., & Dickey, M. W. (2019). Acquisition and generalization responses in aphasia naming treatment: A meta-analysis of semantic feature analysis outcomes. *American Journal of Speech-Language Pathology*, 28(1S), 230-246. doi:10.1044/2018_AJSLP-17-0155
- Rider, J. D., Wright, H. H., Marshall, R. C., & Page, J. L. (2008). Using semantic feature analysis to improve contextual discourse in adults with aphasia. *American Journal of Speech-Language Pathology*, 17(2), 161-172. doi:10.1044/1058-0360(2008/016)
- Samples, J. M., & Lane, V. W. (1980). Language gains in global aphasia over a three-year period: A case study. *Journal of Communication Disorders*, 13(1), 49-57. doi:10.1016/0021-9924(80)90021-0
- Schlaug, G., Marchina, S., & Norton, A. (2008). From singing to speaking: Why singing may lead to recovery of expressive language function in patients with Broca's aphasia. *Music Perception*, 25(4), 315-323. doi:10.1525/mp.2008.25.4.315
- Wallace, S. E., & Kimelman, M. D. Z. (2013). Generalization of word retrieval following semantic feature treatment. *NeuroRehabilitation*, 32(4), 899-913. doi:10.3233/NRE-130914
- Wambaugh, J. L., Mauszycki, S., & Wright, S. (2014). Semantic feature analysis: Application to confrontation naming of actions in aphasia. *Aphasiology*, 28(1), 1-24. doi:10.1080/02687038.2013.845739

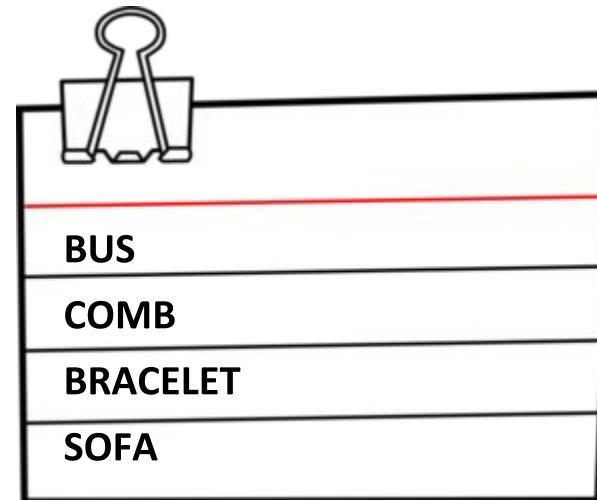
Food + meal → breakfast, lunch, or dinner

Food + meal + evening → dinner

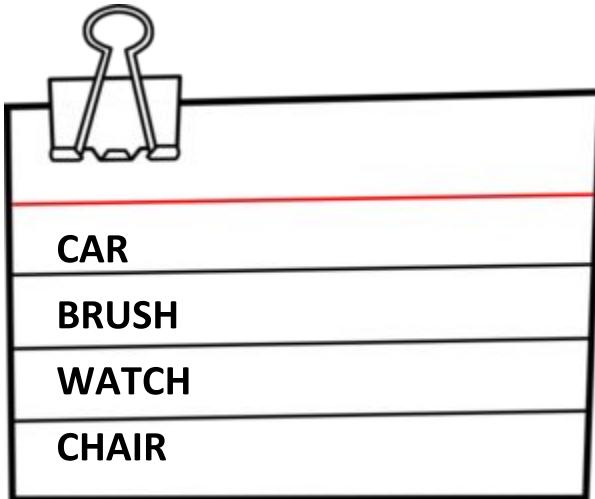
Trained Words



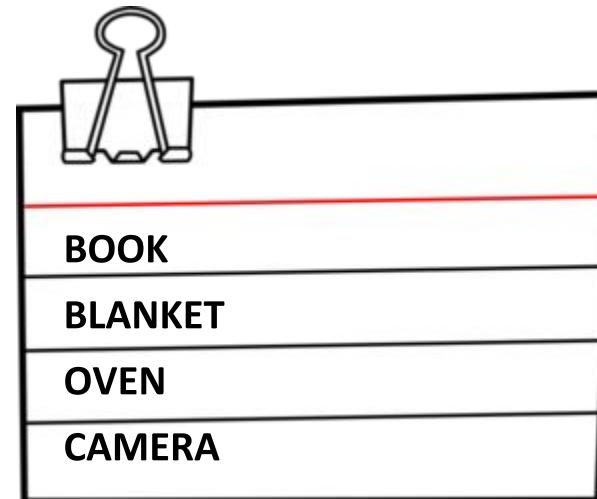
Untrained Words



Trained Words



Untrained Words



Example

