

**PRODUCTION OF VOCALIZED LATERALS IN WEST CENTRAL  
BAVARIAN - AN ARTICULATORY ANALYSIS OF PRIMARY SCHOOL  
CHILDREN**

Katrin Wolfswinkler, Lia Saki Bucar Shigemori  
*Ludwig-Maximilians-University, Munich, Germany*

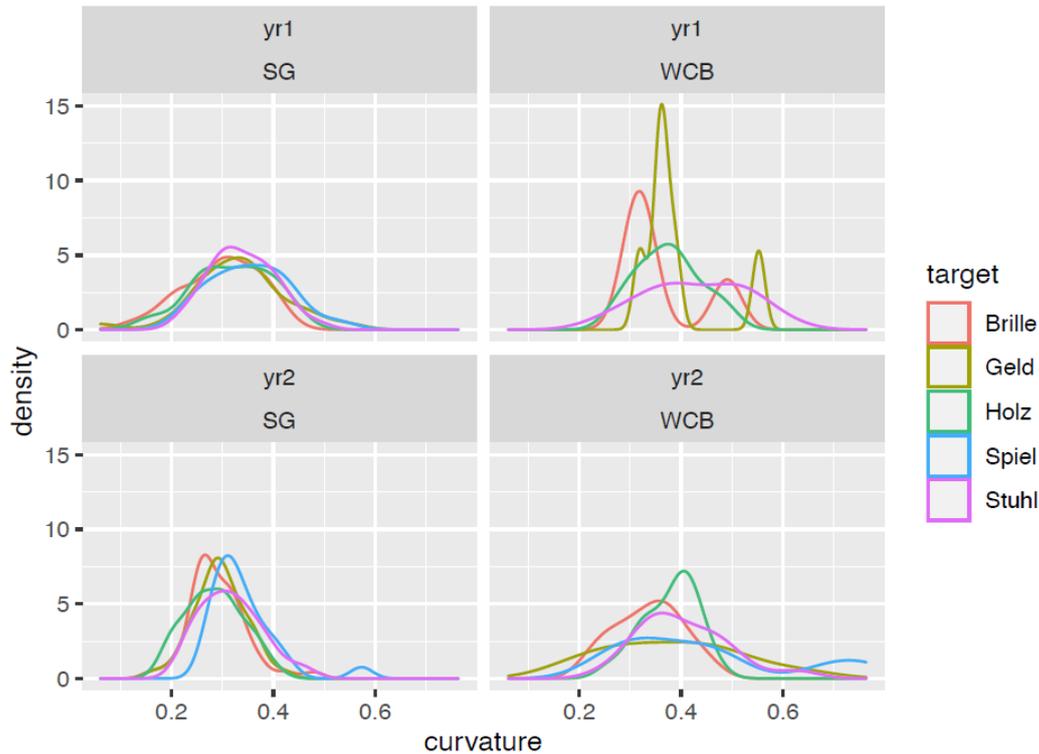
The present study is concerned with an articulatory investigation of child speakers of the West Central Bavarian (WCB) dialect, which is spoken in the south of Germany. The focus is on the production of diphthongs deriving from a historic sound change in which a post-vocalic lateral was vocalized towards a high vowel (Rein, 1974). From this process new diphthongs emerged that were until then not part of the WCB diphthong inventory (Bannert, 1976). In contrast, standard German (SG) still maintains the lateral.

We recorded children in whose parental background WCB was spoken. From the start of schooling children are exposed to SG to a much greater extent. That is, while WCB speaking children grow up with the vocalized form, the influence of SG - where the lateral is fully present - increases as soon as they enter primary school. It is assumed that the first years of schooling are particularly interesting to study shifts in spoken accent as the new peer-group increases in influence relative to the parental environment. Also, from an articulatory point of view the beginning of primary school is highly interesting. While changes in articulation are often linked to the maturation of the speech motor system, it has been shown that there is a relationship between reading proficiency and coarticulatory organization (Popescu & Noiray, 2021). This suggests that improving experience with grapheme to phoneme to speech motor correspondences that comes along with the acquisition of reading might also promote children's spoken language competence (Popescu & Noiray, 2021).

The focus of the present study was on children's abilities to differentiate the lateral (in SG pronunciation) and its vocalized counterpart (in WCB pronunciation) articulatory. A further goal was to investigate to what point children are able to form clear SG vs. WCB categories and whether this ability might improve as they grow older.

Ultrasound recordings of 14 WCB speaking primary school children, conducted in their first year of primary school and again one year later, were analyzed. They each produced four repetitions of five isolated words with V+/l/ in SG and a diphthong in WCB as target segments and of two words with either /i/ or /l/ in both SG and WCB as controls. The data was obtained via a picture naming task where the children had to name pictures appearing on a screen. The children switched rather unconsciously between the two varieties, which allowed us to investigate WCB and SG productions within the same children.

Quantifying the tongue shape in terms of values for tongue curvature and tongue curvature position (Ménard et al., 2012), the main difference between the SG lateral and the WCB vocalic production was found in tongue curvature. Figure 1 shows that there was a greater variability in the articulation of both SG /l/ and WCB /i/ in the children in their first as compared to their second year of primary school. These results suggest improving articulatory accuracy with increasing age, possibly stimulated by increasing orthographic experience and the concomitant enhanced awareness of phonemic units that starts to evolve between the investigated timepoints.



*Distribution of tongue curvature values at the relative timepoint 0.8 (on a scale from 0 to 1, hence towards the end of either the V+/l/ segment or the diphthong in order to capture the shape of the /l/ in SG pronunciation or /i/ in WCB pronunciation), separated by recording timepoint (yr1 = 1st year in primary school; yr2 = 2nd year in primary school) and produced variety.*

## References

- Bannert, R. (1976). *Mittelbairische Phonologie auf akustischer und perzeptorischer Grundlage*. Ph.D. dissertation, Lund University.
- Ménard, L., Aubin, J., Thibeault, M., & Richard, G. (2012). Measuring tongue shapes and positions with ultrasound imaging: A validation experiment using an articulatory model. *Folia Phoniatrica et Logopaedica*, 64(2), 64-72.
- Popescu, A., & Noiray, A. (2021). Learning to Read Interacts with Children's Spoken Language Fluency. *Language Learning and Development*, 1-20.
- Rein, K. (1974). Die mittelbairische Liquiden-Vokalisierung. *Zeitschrift für Dialektologie und Linguistik*, 41(1), 21-37.