

Letter Recognition Strategies of Emergent Adult L2 Readers: The Role of L2 Knowledge and Cross-Linguistic Transfer

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Different serial letter positions are not equally meaningful for word recognition. An M-shaped pattern has been widely attested for experienced readers in alphabetic languages (Green et al., 1983; Hammond & Green, 1982; Alexeeva & Dobrego, 2021). In languages with the left-to-right reading direction, the first and the last letter receive an advantage due to their utility to initiate lexical activation and grammatical integration of a word. However, letter recognition patterns differ cross-linguistically. With Arabic native speakers, a U-shaped pattern with the advantage to the middle position has been attested, which is also characteristic of symbols (Randall & Meara, 1988). Orthography type (Ktori & Pitchford, 2008) and differences in lexical structure (tri-consonantal roots in Arabic vs. the root-and-affix structure in alphabetic scripts, Randall & Meara, 1988) have been claimed responsible for cross-linguistic differences in letter processing. For the letter recognition pattern in L2 English, it has been demonstrated that experienced L1 Arabic readers first transfer their strategy from their L1, but transition towards the M-shaped curve with increasing L2 reading experience (Randall & Meara, 1988).

In the current study, we inquired how less experienced L2 readers make use of their linguistic knowledge in L2 and their potentially available L1 strategies during letter recognition. Emergent adult L2 readers are especially challenged with the task to acquire literacy skills, as they have not yet completed L2 acquisition in terms of grammar and vocabulary. We present the results of a letter recognition study using a visual scan task with emergent adult L2 readers. At the time of investigation, they were attending German as a Second Language (GSL) courses with literacy instruction. The participants (N=59 with L1 Arabic, N=34 with L1 Farsi-Dari and N=23 with L1 Turkish) were asked to identify 24 characters of the German alphabet (*c, j, q, x, y* were excluded) in different positions of a five-character stimulus which could be an existing word or a letter string. First, the letter was presented. Then, the participants saw the stimulus and had to deliver a YES/NO-response whether the letter was present in the stimulus or not. To reduce random guessing, a follow-up task was administered. Upon every YES-response, the participants were asked to identify the letter in the stimulus with a touch response.

Reaction times and accuracy were measured. The participants correctly identified the characters with the error rate of around 6%, though the Farsi-Dari group generally underperformed. Preliminary evaluation shows that the participants were quicker to identify the characters in a word compared to a string. RT-based letter recognition curves were computed for L2 German. L1 Farsi-Dari and L1 Arabic emergent readers showed a well-pronounced U-shaped curve with the advantage towards the central position. L1 Turkish readers showed a U-shaped curve for strings, but a serial recognition pattern for words with increasing reaction times from the first to the fifth letter. The results indicate that emergent readers might be less efficient in using available linguistic information (e.g. inflections) during L2 reading suggesting that their potential deficits in L2 grammar and vocabulary are reflected in their reading efficiency (Bernhardt, 2010). Furthermore, lack of the final letter advantage provides support towards sequential letter processing from left to right. The contribution will be supplemented by a more refined statistical analysis as well as letter recognition data from the participants' respective L1s. We will, thus, discuss our results in light of cross-linguistic character search strategies as well as transfer of strategies between L1 and L2.

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