Writing Direction and Spatial Orientation Patterns in Hungarian L2 Learners' Written Texts

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Abstract

The basis of written communication is the knowledge of the writing system of the given language, which provides ground for the development of literacy skills. In order to be able to read and write in Hungarian, the knowledge of the Hungarian version of the Latin alphabet is required. The writing direction is inextricably linked to the writing system, which basically determines the pace of text creation and influences the spatial placement of a text. It is also necessary that the typeface of the written text is identifiable, so an excessively divergent design is not appropriate. In my paper, the focus is on the examination of the writing direction and spatial placement. I will show what characteristics the writing system has at the beginning of Hungarian language learning – in the first few months – in the case of students who have been socialized to write from right to left.

Keywords

corpus; language learner; language learning; spatial orientation; writing direction

1. Introduction

Written texts are part of everyday life, so they also play a central role in language learning. The basis of written communication is the knowledge of the writing system, which provides a basis for developing literacy skills (Elbeheri, Everatt 2007). In language classes, students must get familiar with the written form of the language they are learning, its alphabet, and the system of rules related to reading and writing. These elements

 | SFU – Studi Finno-Ugrici, n.s. 2 (2022), 1-12 | ISSN 1826-753X
https://doi.org/10.6093/1826-753X/9864

vary significantly from language to language. In general, reading does not require high-level writing skills because the understanding of letters and procedural knowledge are sufficient for reading comprehension. However, for the success of any writing activity, a good level of reading skill is essential since we constantly monitor the already completed text while writing.

The instinctive interiorization of the location of written information and, based on this, the automatization of the spatial orientation play an important role in developing literacy skills (Abu-Rabia 2001). The appearance and directions within the plane (above, below, left, right, to the left, to the right) are universal. However, the direction of the visual representation and decoding of the given information from right to left or left to right are culturally determined. Moreover, the visual cultures also embed two additional directions in space (above and below) in the decoding process. The process of writing and reading in Hungarian requires a high-level skill in perceiving visual signals from left to right (Schmidt 2018). The writing system of the given language plays a vital role in learning to read and write. Differences in the direction of writing (from right to left, from left to the right, or top to bottom) in each language significantly affect the speed and accuracy of learning the writing system (Abu-Rabia 1997).

Directly related to the direction of writing is the reading process, which consists of two main parts: the first part is the decoding itself, that is, the segmentation of the word, and the second part is the identification of the meaning of the segmented word, which may be preceded by the recognition of morphological structures (Gósy 2005, 362). The first part of the process is particularly important for people socialized in different visual backgrounds. Within this phase, the reader has to adjust his eye movement to the text's writing direction, which requires a high degree of automatization in the procedural process of the decoding. The reader identifies the Hungarian written text; then, there is a quick movement from left to right, the so-called saccade, followed by a pause, the fixation. In addition to these two movements, the reader occasionally engages in regressive eye movements, which is caused by the lack of experience in reading, the complexity of the text or simply by fatigue (ivi, 363). In the case of those writing systems, where the writing direction is different from the one of the Hungarian language,

and consequently the direction of the eye movement is also different, while reading, the eyes move in the previously automated direction, from right to left, and not from left to right like the writing direction of the Hungarian language. This process greatly slows down reading, and when it comes to writing, eye movement becomes hesitant in keeping the start of the lines and the words, as well as the space between them.

In addition to reading, the spatial orientation related to the direction of writing is also emphasized during writing. Compared to the reading process – of which we have a great deal of information – the writing process is generally a less researched area (Crystal 2003, 266, Gósy 2005, 362, Csépe *et al*. 2008, Pléh, Lukács 2014). Lengyel writes in detail about the anatomy of the ontogenesis of Hungarian writing, that is, the stages in acquisition, learning and development of writing. He lists the prerequisite skills of learning writing, and he emphasizes that the auditory-articulative, optical-visual, and motoric skills must have a certain degree of autonomy (Lengyel 1999, 180-181). The definition of writing as a psycholinguistic process can be found in Crystal (2003). He claims that «there must be a design phase in which thoughts are organized, and a lexical/grammatical outline is produced» (267). Then the motoric activity begins when the planned content is written down by considering the language accuracy and spelling rules. The main obstacle to the examination of writing is that it is not clear what is happening during the design and the motoric phase, how they are related to each other and what type of control mechanisms is used through the redesign. From the perspective of the writing direction and the execution of letters, the motoric phase is crucial because while writing the text, the student must mobilize his knowledge of the font, the font size, the writing direction, the spatial placement of the text, the spacing and the punctuation. The parallel use of these elements requires deep concentration and a large amount of energy from the student. Automating the writing elements helps the student write faster and more accurately.

In addition to the direction of writing, while writing and reading, the phenomenon of the visual stimulus sequence plays a significant role during which the optical and the visual signals are connected to the phonetic units (Lengyel 1998, 13). Different writing systems vary in this regard. Therefore, special attention should be paid to this in developing literacy skills.

In alphabetic writing systems, the letters are considered visual elements which trigger phonetic events. At the same time, in the case of experienced readers, the high-frequent symbol combinations are not processed element by element, but as a whole, they operate sequential-level reading. Students who learn to read – especially in the initial stages – mainly perform element-by-element identification. They still need to be capable of reading at the sequential level. As a result of automated processes during reading activities, element-by-element reading transforms into sequential. However, element-by-element processing remains in cases where the reader reaches a place in the text that is difficult to identify (ivi, 13-14).

In non-alphabetic writing systems, the phonetic event is not triggered by the letters but by other systematic interconnected factors. These can be ideograms or letter combination units where vowel marking is less present. In this context, the timing of the visual stimulus sequence is different. Unlike the alphabetic language systems, sign recognition speeds up at other parts of the text, and the connection of the optical-graphic units to phonetic units also differs.

The characteristics of writing systems and the interoperability between different writing systems greatly influence the acquisition of literacy skills. The acquisition rate is also faster in languages where the language structural distance is small or where the languages are identical in their basic linguistic and structural elements. The development of the skills does not necessarily take place simultaneously, sometimes with a certain time lapse, and it is also possible that the acquisition occurs within a relatively short time. Where the language structural distance is considerable, and it is difficult to interpret one language in the light of the other, difficulties may arise, which in extreme cases can hinder the effectiveness of learning to read and write.

In addition to knowing the writing system, text organizational elements are essential for correctly interpreting the written text (Schmidt 2019). While applying the corresponding graphemes in the course of writing, the appropriate punctuation (comma, full stop, exclamation mark) and the spatial separation units that segment the text (paragraph, space) must also be implemented. The typeface of the written text must be identifiable. Therefore, an excessively divergent design is not appropriate. The use and discrimination of uppercase and lowercase letters are essential for sentence segmentation and the application of spelling rules (Eviatar, Ibrahim, Ganayim 2004).

Among the aspects described above, the study focuses on examining the writing direction, the spatial placement, and the typeface of the letters.

2. Methodology

The empirical part of the research is provided by the *KorSzak tanulói korpusz* (*KorSzak* learner corpus), created by the *Work Group for Corpus Linguistics and Didactics* (abbreviated *KorSzak* in Hungarian). The group's primary goal was to connect the results of the empirical linguistic research and the Hungarian L2 teaching methodology development (Baumann *et al.* 2020, Vermeki 2021, 2022). The theoretical framework of corpus building is based on the linguistic experiences of native speakers, upon which the structure of the learner corpus was created (Hoey 2005, 194). The *KorSzak learner corpus* has been built by the members of the *KorSzak* association since February 2020 (see also Baumann *et al*. 2020). The language learner corpus consists of two types of data (1) written text production and (2) oral speech production. In the research, I use the first sub-corpus, the part containing the written texts of the language learners. The informants included in the study are 18-19-year-old Arabic language speakers. Therefore, they have been socialized in the right-to-left writing direction. They study Hungarian, attending language courses in Hungary, they all finished their high school education in their home country. The examined texts are part of sub-corpora A1 and B1 of the *KorSzak learner corpus*. Since the texts are represented in the corpus both as transcriptions and original images of the handwritten text, in addition to the spatial organization, the visual characteristics of the letter formats may also be observed.

The research aims to describe differences seen at levels A1 and B1 in (1) the organization of the writing direction and the spatial placement and (2) the changes in writing production of the typeface of the letters.

3. Results

Based on the A1 level data, it can be seen that the students have serious difficulties in following the direction of writing from left to right and keeping consistent spatial organization during the writing activity. This can be seen in that the beginning of the lines is not even: it shows a random

pattern. The beginning of the pre-drawn lines is not kept at all, as seen in the example shown in figure 1. Not a single line begins in the same place as the previous ones. In many cases, the text runs beyond the end of the lines, which is also related to the difficulty of the text orientation in space.

When examining the location of the letters, it can be observed that they do not stand on the lines but on the line below or above. The writing production could be best characterized by a wavy line, which is formed as a result of an attempt to coordinate the hand and the eye movements. The image of the spatial location of the writing shows that the student still needs to be able to monitor and control the coherence of the visuomotoric activity.

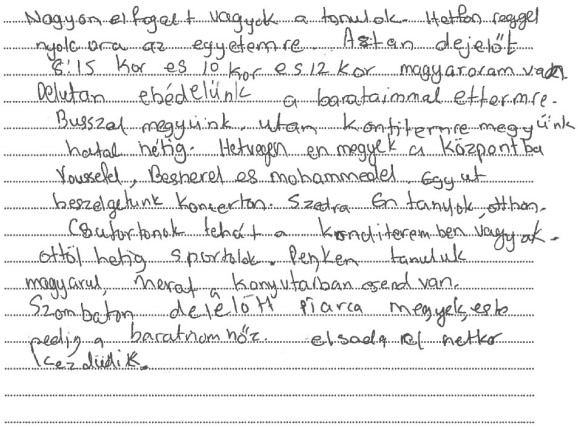

Figure 1 – A1 level learner.

At the B1 level, a significant development can be observed both in the left-to-right writing direction and keeping consistent spatial organization during the writing activity. The sign of following the left-to-right writing direction is that the text starts precisely at the beginning of the page line. This always co-occurs with starting a new sentence at the beginning of the page lines, which primarily indicates a need for more proficiency in text formation. A deeper understanding of text structuring at level B1 is not yet expected from the learners, so the automation of spatial segmentation triggers the students to start sentences in a new line. This is a clear improvement compared to A1-level spatial organization.

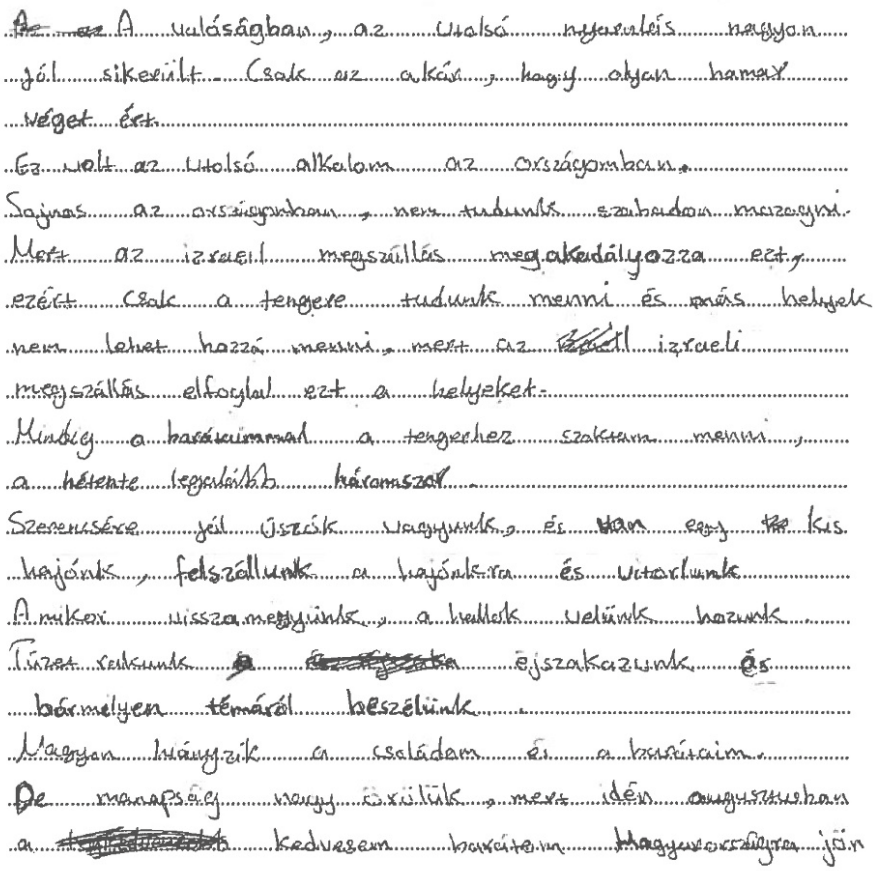

Figure 2 – B1 level learner.

At the A1 level, the deviation from the correct application of the visual marking typical of the Hungarian alphabet is highly noticeable. The design of the letters shows a specific image. The letters are somewhat less rounded compared to the Hungarian design pattern. The peculiarity of the letters of the Hungarian alphabet is that there are dots (*i*, *ö*) and accents (*á*, *é*) above the letters. Among these, there are two types: (1) the accent indicates the length of the pronunciation of the sound (*i–í*, *o–ó*, *ö–ő*, *u–ú*, *ü–ű*) while the

pronunciation does not differ in other points of articulation; (2) the accent and dots indicate a different quality in the articulation of the sound (*a–á*, *e–é*, *o–ö*, *u–ü*). In the case of Hungarian native speakers, the writing of the mentioned letters falls under the topic of spelling, while for learners of Hungarian, the focus is elsewhere, that is, whether the student knows the correct marking of the letters of the Hungarian alphabet and whether he or she is able to mark the difference between dots and accents precisely in writing.

Based on the participants' inaccuracy in writing letters, it is more likely that the cause of the deviation in the production of the dots and the accents is the lack of differentiation between them (Alsaawi 2015). The appearances of the mentioned phenomenon are that (1) the difference in size between dots and accents is blurred; (2) instead of two identical points or accents, one is longer or shorter; (3) the accents sometimes tilt to the right, sometimes to the left; (4) dots and accents are not placed above the corresponding letter, but slightly in front or behind it. In addition to the undeveloped marking of letters, the large number of elements in the Hungarian alphabet also plays a significant role in letter deviation. The Hungarian alphabet has 44 letters, a way more if compared to other Latin alphabets, such as English and German, where the number of elements is less than 30.

Although the letters may be tilted to the right and left and float compared to each other, the word segmentation is well-defined, meaning that the space between the words is adequate and does not flow into each other. The sentence segmentation is marked with upper case letters, and according to the punctuation rules, the sentences end with full stops. In addition to that, other marks such as commas or exclamation marks do not appear in the texts. That can stem from the modality of the sentences and the text type since these are descriptive texts.

With the level B1 texts compared to the ones at level A1, we can conclude that the specific characteristic of the font remains at level B1. At the same time, the letter elements become more legible and show a more uniform and consistent use. The small font size, which has become a little rounder compared to the flatter form seen at the A1 level, is still a dominant feature of the font design. The places of the dots and the accents above the letters have become more precise, and the length of the accents is better marked. In the

writing shown in figure 4, it can also be observed that the student does not use the accented letter for certain words (*erdekes~érdekes*), or it used accidentally: accented and unaccented versions can be read in the text (*ezért~ezert*).

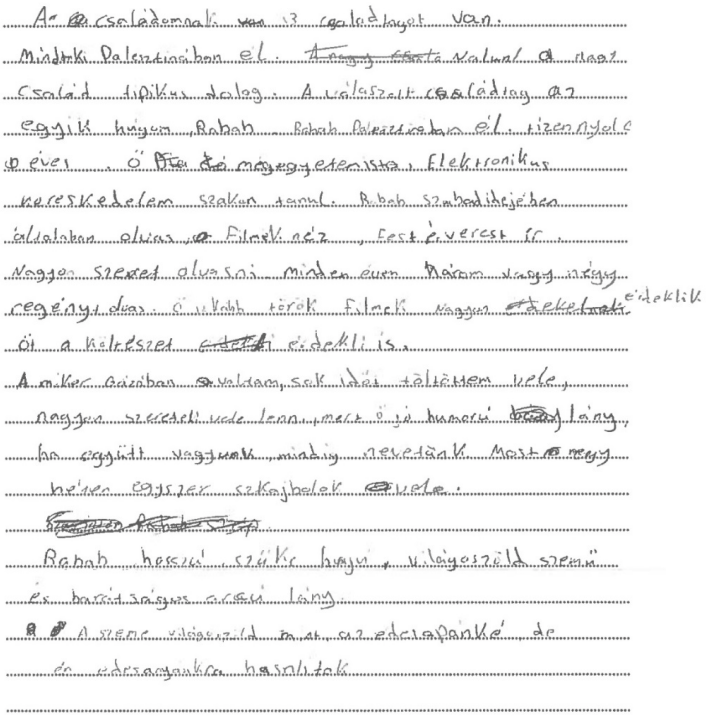

Figure 3 – A1 level learner.

In terms of punctuation, units separated by commas also appear in addition to the end-of-sentence punctuation visible at level A1. This is obviously related to the development of language skills since the learners became capable of using complex sentences, which goes hand in hand with using commas. The shape of the commas is more tilted than in native Hungarian speakers' handwriting, and in many cases, they do not intersect the line but slide above or below it. Sentences consistently begin with an uppercase letter and are sufficiently differentiated from lowercase letters.

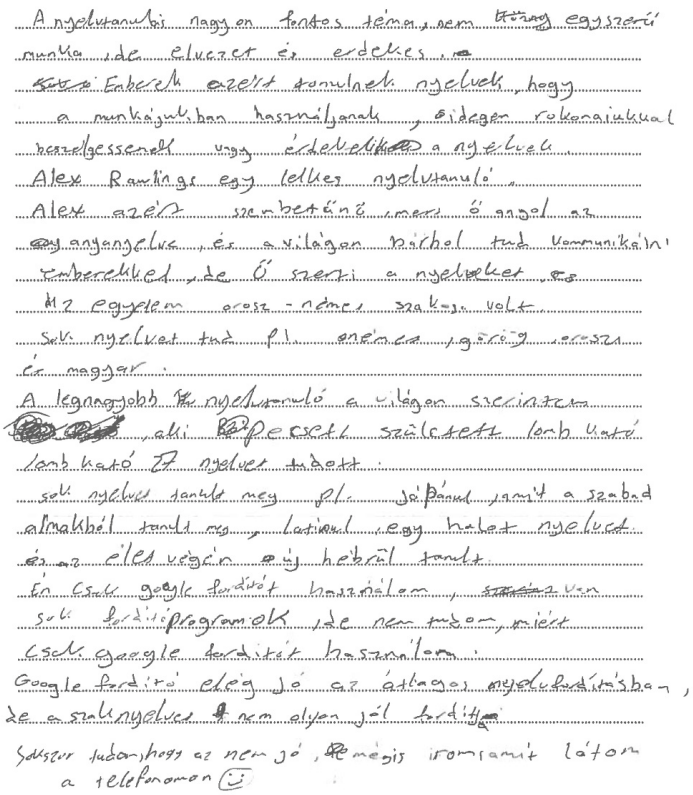

Figure 4 – B1 level learner.

4. Discussion

The results show that for those from a visual culture other than Hungarian, at the lower language level – A1 – it is challenging to follow the direction from left to right, as well as to maintain a consistent spatial organization during the writing activity. At the B1 level, improvement can be observed in both of the mentioned areas. At the A1 language level, there is a noticeable deviation from the correct use of the visual marking characteristic of the

Hungarian alphabet, one of the reasons for it is a large number of letters of the alphabet, and the other one is the lack of development in the distinction between dots and accents (Alsaawi 2015). The specific characteristic of the font remains even at level B1, while the font elements become more legible and show a more uniform and consistent use.

The automation of the writing direction is an essential factor during the writing process, as it determines the pace of the text creation and affects the spatial placement of the text. The development of spatial orientation offers the possibility for those whose orientation in plane and space in the initial phase of literacy has not yet been fixed to be able to master keeping the direction while writing. In the case of students who already have a fixed perception of writing direction, by developing their spatial orientation, it is possible to switch to Hungarian language-specific directions in order to acquire literacy at an appropriate pace. This is especially difficult for learners, like the participants in the research, who are experienced readers already. They are at a high level in terms of literacy skills, but they have been socialized to use the opposite direction of writing and reading compared to the Hungarian language. During the teaching process of these students, the teacher must pay special attention to fix the directions and carefully observe their writing and reading techniques.

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