

Journal Article Summary #2

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WL 664: Second Language Acquisition-Theory and Practice

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In the March 2019 issue of *Foreign Language Anals*, researchers Richard Sparks (University of Cincinnati), Jon Patton (Purdue University) and Julie Luebbers (Ohio State University) presented a review of their original research into crosslinguistic transfer of L1 to L2 skills. Specifically, their research looked to investigate the effects of L1 skill level on L2 achievement and proficiency. In general, L2 researchers have always assumed that L2 learners vary significantly in their L2 speed of acquisition and proficiency but by the same token there has been an equal assumption that everyone more or less learns their L1 with a certain degree of success (Rubin, 1975, as cited in Sparks et al., 2019). Furthermore, there has been a general acceptance among the language research community that even if some differences in L1 acquisition may present themselves in the early years, that everyone basically achieves full competence in their mother tongue with little or no difference in L1 ability (Ellis, 2004, as cited in Sparks et al., 2019). In general, we tend to assume that someone's ability to effectively engage in communication means they have achieved proficiency in their L1 but there are in fact significant individual differences (IDs) in L1 abilities such as range of vocabulary, literacy and complexity of sentence structure.

Multiple theories have been proposed over the years that seek to understand and explain the language learning process. Our course text books (Brown, 2014; Gass et al., 2020) do an excellent job at presenting the various lines of thinking in the field including the cognitive approach, behaviorists, social-constructivists, psycholinguistic approaches, socio-cultural theories and also ideas on how individual personality traits and differences in learning styles can affect the language learning process. Sparks et al., (2019) are coming at this from a slightly different angle. They believe that one's L1 skill set has a very significant impact on the level of proficiency that one attains in their L2. The authors refer to a quite robust body of prior research

that supports the existence of crosslinguistic transfer of L1 to L2 skills and in particular that L1 abilities in word decoding, reading comprehension, spelling and vocabulary developed in elementary school are strongly related to a student's subsequent level of L2 aptitude and can also be predictive of L2 achievement later in high school (Sparks, 2012, as cited in Sparks et al., 2019).

The present study examines the relationship among US high school students' L2 achievement and their L1 skills, L1 cognitive processing and L1 read-related skills. This study is unique from prior research in that a) it examines participants' L1 achievement and their L2 aptitude at the time they began their first L2 high school course (Spanish), b) it measures L1 cognitive processing including L1 working memory, L1 phonological memory and L1 metalinguistic knowledge, c) participants' L2 achievement was measured with a standardized Spanish test (as opposed to grades) that compared performance to that of Spanish speakers and d) participants were followed over three years.

The authors first reviewed the current literature on crosslinguistic skill transfer. Since the early 1990s there has been a significant amount of research in this field. Sparks and Ganshaw (1995) introduced the linguistic coding differences hypothesis to explain how L1 skills can serve as a foundation for L2 aptitude (as cited in Sparks et al., 2019). Their hypothesis was actually supported by earlier research by Cummins (1979) who introduced the linguistic threshold hypothesis that posited the level of L2 achievement is moderated by one's level of L1 attainment (as cited in Sparks et al., 2019). Lervag and Aukrust (2010) conducted research into IDs and found that L1 skills are strongly related to L2 achievement and there is a significant amount of research showing that L1 literacy skills are strongly related to L2 reading development (Sparks et al., 2019). The authors also present research from other approaches, such as affective theories of

language learning that assume that a learner's anxiety can lead to obstacles to language learning, but point to research making the case that anxiety in L2 learners can also be attributed to their L1 skill level (Horwitz and Cope, 1980, as cited in Sparks et al., 2019). In sum there have been numerous studies showing the relationship between L1 skills and L2 proficiency and that L1 and L2 have a common underlying proficiency. The present study adds some unique contributions to the field. L2 proficiency was assessed by a standardized test, students' L1 skills set were assessed in a greater level of detail (working memory, phonological memory, metalinguistic knowledge, attitudes to reading etc), and L1 skills were examined retrospectively before starting their courses.

The study therefore is seeking an answer to the following question: will L2 students who show IDs on a standardized measure of L2 achievement after two years of high school Spanish also exhibit IDs in L1 skills and L2 aptitude. The authors breakdown this question in three other ways: a) to what extent will students with different L2 achievement levels exhibit differences in their L1 skills; b) to what extent will students with different L2 achievement levels exhibit differences in L1 working memory, L1 phonological memory, L1 print exposure and L1 reading ability; c) which testing measures will best discriminate between students who completed two years versus three years of high school Spanish.

The study was conducted on 307 participants chosen randomly from students enrolled in their first year Spanish course from one of four high schools at a large suburban school district in the Midwest. The participants included 153 females and 154 males with an average age of 15 years old and spanning grades 9 through 11. 263 of the participants completed Spanish 2 and 51 of the participants completed Spanish 3. All participants were monolingual prior to their first year of high school Spanish. 11 testing instruments were used to measure L1 skills. 6 of these were

used in many of the prior studies and 5 were designed to measure L1 phonological short-term memory, L1 working memory, metalinguistic knowledge, reading attitudes and prior reading exposure. The tests were administered at different times during the study and students took the tests in groups of 25-30. To identify differences, students were divided into 3 groups according to L2 achievement: a high achieving group, an average achievement group and a low achieving group. L1 skills were then assessed between three groups.

The results from the research were very interesting. The 3 groups displayed significant differences in all measures of L1 skills at the end of both the first year and the second year of Spanish (Sparks et al., 2019); That is, the group with the highest measure of L2 achievement showed higher L1 achievement than the average achievement group and the average group displayed higher L1 skills than the low level group. This finding supports earlier research in the field that L1 skills are linked to L2 achievement. Interestingly, the 3 groups exhibited levels of achievement in L2 skills that mirrored their L1 skills (Sparks et al., 2019). For example, students who were strong in L2 word decoding also displayed the same strength in their L1. The 3 groups also exhibited differences in L1 cognitive processing and L1 reading-related skills. These findings also support prior research that exposure to L1 reading is related to IDs in L2 achievement. Finally, students who enrolled in the third year of Spanish exhibited stronger L1 skills than those students that stopped after Spanish 2. Specifically, the results showed that L1 word decoding, fluency, reading comprehension, L1 working memory and L1 phonological memory were all higher than the other students who chose not to continue.

As a student of linguistics and currently focused on exploring the different theories and approaches to language learning, I found this article and research quite provocative and it has opened up a whole new line of thought for me into how we learn a language and the potential

key influencers of that learning process. The authors did a quite thorough presentation into the prior research in the field, and although already quite robust, were able to dive deeper into this line of inquiry and make new contributions. As much as I was intrigued by this research and the questions it raises, I was equally impressed by the way the authors tied their findings back to the classroom. Assuming this research is accurate, then implications for language pedagogy are quite important. Teachers in the L2 classroom when faced with differences among students in L2 achievement may not readily see that their students have differences in L1 skills but armed with this research may be able to understand the challenges some students are facing. Like most of us, the assumption is that we all have reached full proficiency in our L1. The authors advise that L2 teachers, when faced with this situation, integrate work on core language skills as well as the appropriate knowledge and skills needed by novice and intermediate L2 learners.

References

Sparks, R., Patton, J., & Luebbers J. (2019). Individual differences in L2 achievement mirror individual differences in L1 skills and L2 aptitude: Crosslinguistic transfer of L1 to L2 skills. *Foreign Language Anals*, 52(2), 255–283. <https://doi.org/10.1002/flan.12390>