Introduction

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Understanding L2 Proficiency

Theoretical and meta-analytic investigations

EDITED BY
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Understanding L2 Proficiency

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Theoretical and meta-analytic investigations

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CHAPTER 1

Introduction

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Every person who has attended high school is familiar with the term 'language proficiency'. It means the ability or skill to comprehend, speak and write a language well and is usually associated with education and career: instruction, learning, taking exams, and obtaining certificates. For foreign/second language (L2) professionals, language proficiency is foremost the business of assessment. Assessment of L2 proficiency has become an industry, where commercial companies and public institutions invest (and sometimes earn) large amounts of money. Before constructing and administering a proficiency test, specialists, working in the assessment field, must answer the question "What is language proficiency?" It is therefore no surprise that language proficiency has become one of the objects of study of 'applied' linguists, in particular language-testing specialists. Over the last 50 years, many books, conference presentations, and papers in international academic journals were devoted to the 'construct' of language proficiency: Should language proficiency be seen as a unitary construct or does it consist of components? How loosely or tightly do components hang together? To what extent is language proficiency related to, or even dependent on, other mental abilities?

In cognitive psychology, similar questions arose concerning the componential structure of intelligence and memory. The scientific study of these questions benefitted fruitfully from the Cognitive Revolution in psychology and linguistics, which allowed researchers to study what goes on in the 'black box' of the human mind, as behaviourists had earlier called it. The empirical study of the components of intelligence, memory, and language proficiency (associated with giants such as John B. Carroll, J. Paul Guilford, and Alan Baddeley) also benefitted from developments in psychological measurement (based on seminal work of Louis Leon Thurstone, Charles Spearman, and others), with increasingly more sophisticated statistical analyses, such as (confirmatory) factor analysis and structural equation modelling.

In this rich tradition, in the last three decades of the last century, various so-called 'models' of L2 proficiency were proposed, associated with, among others, John Oller Jr., Michael Canale together with Merrill Swain, and Lyle Bachman. With the number of empirical studies growing, and facilitated by new statistical

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techniques, called meta-analyses, the need arose to compare the findings of dozens of studies, and to test the empirical robustness of claims made in the theoretical literature. The number of studies on testing proficiency in English as a second language (listening, speaking, reading, and writing) had become so large that the time had come for such meta-analyses.

Around five years ago, this need was recognized by Eun Hee Jeon and Yo In'nami, the editors of this volume, and their associates Yuya Arai, Taku Kaneta, Rie Koizumi, Masumi Kojima, and Junko Yamashita. I first heard about Jeon and Yamashita's meta-analyses when they presented their ongoing work at the 2011 *Second Language Research Forum*, held at Iowa State University. When their first big study (on L2 reading) appeared in *Language Learning* (2014), I just managed to include a reference to it in my language-proficiency book (2015) before it went in press. Shortly after the publication of the 2014 study, Eun Hee Jeon and her associates started planning a number of big meta-analyses and bringing these together in a volume. Preliminary findings of some of these meta-analyses were presented in a colloquium at the International Symposium of Bilingualism in 2017 (Limerick, Ireland) in which I participated as a discussant. As anyone browsing Chapters 3, 5, 6, 8, 10, and 11, will immediately see, conducting such work requires the highest expertise, and is tremendously time consuming. But here they are, sisterly together: six meta-analytical studies, forming a gold mine for researchers interested in the componential structure of language proficiency and its associations with other cognitive abilities. The volume also includes four chapters on theory and research in L2 listening (Elvis Wagner), speaking (Jie Gao & April Ginther), reading (Junko Yamashita), and writing (Rob Schoonen), bringing readers up to date with recent models and insights. A comparison with a similar update, published in *Annual Review of Applied Linguistics* (Vol. 18, 1998), shows that the field has developed substantially.

This volume allows readers to harvest and reflect on which associations between which factors can be said to be empirically robust, in which L1-L2 combinations, and in which contexts of learning and using English as a second language. Some conclusions can be safely drawn (see Ch. 12 for the discussion of all meta-analysis chapters). However, in scientific inquiry there is never certainty. Empirical observations have to be interpreted and explained, and explanations may change when scientific paradigms change. The best known models and theories of language proficiency were proposed between 1970 and 2000, during the heyday of the first wave of the Cognitive Revolution. That was the time when cognitive abilities in the human mind (e.g., visual perception, reasoning, learning and memory) were conceptualized in a 'box-and-arrow' fashion, with the boxes consisting of 'modules'. During the same period, generative linguistics was dominated by the question of whether the relation between sound and meaning was mediated by syntax and, if so, how the 'interfaces' between linguistic modules should be conceived. In cognitive

psychology of that time, models of information processing distinguished between dynamic 'information processes' and static 'modules' (representations of information), such as sensory perception and short-term memory. Processes (often visualized as circles or ovals) formed the connections between the modules (visualized as square boxes). Carroll's (1993) *Three-Stratum Theory* of cognitive abilities formed the culmination of decades of correlational work.[1]

But the first wave of the Cognitive Revolution was followed by a second wave, manifested by usage-based linguistics and neural-network psychology. Under these views, first-language acquisition (before the acquisition of literacy skills) is a matter of implicit, bottom-up statistical learning, including self-organization in a multi-layered neural network, meaning that higher-order linguistic patterns probabilistically emerge from lower-order elements and patterns. Thus, under this view, there is, for example, no longer a clear border line between syntax and lexis. The brain/mind does not consist of neatly isolated modules (albeit that some areas are more typically involved in processing certain information than others). Furthermore, language (language in the individual speaker as well as language in a community of its speakers) is seen as a complex system, characterized by unequal distributions of its elements and variability in language productions. This raises the question of whether it is possible to assess, in a valid and reliable manner, a person's linguistic repertoire by observing the person's language production, elicited with 'open' speaking or writing tasks (in contrast to tests of vocabulary or grammar of the 'closed', discrete-point type). Can such an assessment only be successful with respect to the most frequent elements and patterns that typically occur in a certain discourse genre?

The studies whose findings are being 'meta-analyzed' is this volume, are invariantly of the correlational type. Regression analyses, factor analyses and structural equation models can only be meaningful, if participants' test scores differ sufficiently. However, as De Jong and Verhoeven (1992, p. 10) remarked,[2] "because

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1. I had the privilege of listening to a fascinating exchange of views between John Oller Jr., who had proposed a unitary model of language proficiency, and John B. Carroll, at the 1981 *LSA/TESOL Summer Institute*, held at the University of New Mexico. Carroll successfully convinced Oller that Oller had overinterpreted the outcomes of principal component analyses. Two years later, Oller published an edited volume (*Issues in Language Testing Research*, Newbury House, 1983), including a chapter written by Carroll. In the Introduction, Oller clearly stated (p. xiv) that "the strongest form of the unitary factor hypothesis is untenable". Scholars who publicly acknowledge that they have been wrong, deserve our respect and should be the models of every earnest researcher.

2. De Jong, J. H. A. L. & Verhoeven, L. (1992). Modeling and assessing language proficiency. In L.Verhoeven & J. H. A. L. de Jong (Eds.), *The construct of language proficiency* (pp. 3–19). John Benjamins.

the factorial approach is based on individual differences, it will always fall short in revealing those basic components of language behavior that are likely to be mastered by all individuals in a relevant population." This remark might stimulate us to construct a theory that accounts not only for individual differences but for commonalities as well. Person attributes, such as hearing ability, working-memory capacity, non-verbal intelligence, level of education, motivation to learn a language, and several other factors, have never been found to account for high amounts of variance (above 50%) in measures of language proficiency. Is this observation related, or not, to the ubiquitous phenomenon of typicality, variability and unequal distributions of linguistic elements in language production? These are challenging issues for future theoretical and empirical work.

In scientific inquiry, researchers always stand upon the shoulders of others. Innovative, new insights can only emerge in scholars who have made themselves thoroughly familiar with extant empirical findings. With the substantial accumulation of empirical research on L2 proficiency, in particular over the last 30 years, researchers of language proficiency will surely be extremely grateful to Eun Hee Jeon, Yo In'nami, Yuya Arai, Taku Kaneta, Rie Koizumi, Masumi Kojima, and Junko Yamashita for bringing all these studies together and analyzing their findings with state-of-the-art meta-analytical tools. Thank you for this big service to the field!

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