BOOK REVIEW

Review of Individual differences in computer assisted language learning research

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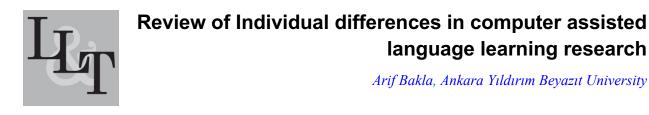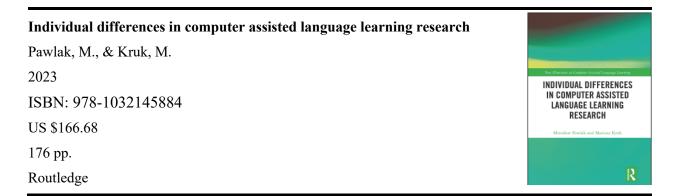
An addition to the series, "New Directions in Computer Assisted Language Learning," *Individual Differences in Computer Assisted Language Learning Research* is a brief, research-oriented initiative that describes the role of individual differences (ID) in computer-assisted language learning (CALL). At the beginning of the text, Pawlak and Kruk (2023) emphasize that different combinations of internal ID factors create unique learner profiles. According to the authors, these internal factors can have a stronger impact on learning outcomes than external factors, such as access to L2 input, materials, teachers, and technology. The authors claim that research on ID factors has been unsystematic and inadequate (despite their importance to language learning), with ID factors receiving scarce attention in key overview papers in CALL. To justify their effort to undertake this work, the authors argue that there appears to be an unbalanced focus on certain ID variables in second language acquisition (SLA) research, along with a failure to consider the relationships between different ID variables.

By considering current developments in SLA, the volume establishes a dynamic nexus between SLA and ID factors in CALL. The authors initially paint a broad picture, not only of a variety of CALL settings and tools, but also of research on ID variables. In Chapter 1, Pawlak and Kruk provide an overview of research on select CALL tools, and in Chapter 2, they provide an overview of major ID variables. Next, Pawlak and Kruk work their way toward more specific topics (e.g., tools for collecting data in ID research). This gradual approach makes the book appropriate for a wide audience, including individuals who may or may not be familiar with research on CALL and ID factors. The intended readership of the book could include researchers or teachers who are interested in ID factors in language education in general, as well as anyone who seeks to obtain a wider perspective of the role of ID factors in CALL settings.

The book opens with an introduction discussing the rationale behind research on learner-internal factors (i.e., individual difference variables) in SLA. The rest of the volume is neatly organized into four thematic chapters: an overview of selected CALL technologies, major developments in research on ID factors in SLA, methodological issues involved in researching ID factors, and an overview of research on ID factors in CALL settings. These chapters are followed by a thought-provoking conclusion in which the authors summarize key issues, suggest avenues of further research, and provide recommendations for practice.

The first two chapters lay a solid foundation for the rest of the volume as the authors offer a research-

oriented overview of the tools and variables they cover. In Chapter 1, Pawlak and Kruk focus on CALL tools and settings that they consider to be valuable (e.g., social networking platforms, virtual worlds, digital games, and extended reality). Pawlak and Kruk report having sampled the most innovative and promising tools for L2 instruction, albeit in a subjective manner. The authors provide background information on the tools before they summarize the results of major empirical studies that have incorporated them. In Chapter 2, Pawlak and Kruk shift the readers' attention to the second pillar of their work—ID factors in SLA. The authors draw attention to emerging trends, and they discuss the results of individual studies to sketch a broader picture of research on ID factors in SLA.

In Chapter 3, Pawlak and Kruk look at commonly used data collection tools and research techniques in investigations surrounding IDs. The authors point readers to specific studies to gain further insight into how a particular data collection tool or technique (e.g., questionnaires, interviews, diaries, and journals) can be used to fulfil a specific research objective. Pawlak and Kruk also discuss variation in the use of data collection tools and research techniques by providing examples from literature. In terms of specific methods and tools, the authors draw a critical distinction between macro- and micro-perspectives in research on ID factors. While macro-perspectives refer to a conventional approach in which overall patterns are identified by studying selected language samples systematically, micro-perspectives involve a more contextualized study of ID factors and the dynamic relationships among them. An example of this micro-perspective would be collecting rich data that enables an analysis of the roles different aspects of individual variation may play in SLA in a specific context.

In Chapter 4, Pawlak and Kruk return to the focus of the volume—ID factors—by elaborating on research on ID variables, with a particular focus on CALL settings. The authors adopt a thematic approach to discussing the research findings, using the major ID factors presented in Chapter 2 as a guide. The discussion of research on age as an ID variable is followed by the treatment of gender and then aptitude and working memory. Other variables identified include personality, grit, learning styles, learning strategies, self-regulation, beliefs, motivation, willingness to communicate, engagement, and emotions. In this respect, the thematic organization functions as a literature map, highlighting gaps in current knowledge. I strongly recommend that readers save Chapter 4 until after they have read Chapters 2 and 3. Chapters 2 and 3 ensure that readers will acquire an overall understanding of major ID factors as well as common data collection and analysis procedures before taking a closer look at ID research in CALL settings. In other words, it makes sense, especially for those who are new to CALL and ID factors, to follow the given order of the chapters while reading the book.

In the closing chapter, the authors discuss the ways in which research in SLA and CALL support and balance each other. Pawlak and Kruk claim that CALL researchers are often inspired by the work of their SLA counterparts, stating that "SLA researchers have been blazing the trail for investigations into IDs on many levels" (p. 93). At the same time, Pawlak and Kruk point to some theoretical and practical problems pertinent to SLA and CALL researchers. The most important of these problems is that findings from SLA-based CALL research may be beyond the comprehension of some practitioners. Another issue is the trend in SLA research to focus on variables (e.g., working memory or personality) that do not lend themselves easily to concrete pedagogical interventions. Next, the authors provide suggestions to guide prospective research. Specifically, Pawlak and Kruk suggest investigating the ways interactions among different groups of ID factors can affect the processes and outcomes of L2 learning. Moreover, they suggest using tools and methods recently incorporated in SLA research (e.g., the idiodynamic method, latent growth modelling or process tracing). Finally, the authors stress that there is a need for continuous information exchange among researchers of ID factors in SLA and CALL.

Throughout the book, the authors intentionally avoid drawing conclusions about the role of a particular ID variable in different CALL settings, so as not to generalize ID-related research findings that were obtained in a specific setting or using a specific tool. Due to the immense diversity of tools and settings in CALL, Pawlak and Kruk recommend that researchers and practitioners exercise caution when drawing conclusions from research, and in turn, attempting to generalise those recommendations to different settings. This caveat

also points to the fact that it may be difficult to conduct research syntheses of ID-related research in CALL.

The first strength of the book is that Pawlak and Kruk move back and forth seamlessly between CALL and the larger domain of SLA. In doing so, the authors link empirical evidence from ID research in CALL to current developments in SLA research. In addition, the authors define several key terms (e.g., language aptitude, grit, learning styles, and motivation), which have been understood differently by distinct authors. These explanations help readers to grasp the subsequent content easily. Moreover, the authors draw attention to important gaps in ID investigations, so other researchers may identify a niche for themselves within this broader line of research. The topics on which there is a paucity of research include, but are not limited to, language learning strategies in the areas of vocabulary, grammar, and pronunciation, connections between working memory and aptitude, and constructs such as personality, grit, engagement, and emotion in CALL settings.

The ID factors addressed in this volume were chosen by the authors for their potential to lend themselves to pedagogical interventions. However, the 'systematic overview' of research the authors claim to present does not appear to be applied in a technical sense. Unlike the bibliometric study conducted by Natividad et al. (2018), in which the authors reported on research trends in a systematically selected set of top-tier publications in educational technology, Pawlak and Kruk did not elaborate on their selection and sampling procedures. This elaboration would have shed light on the extent to which their findings were representative of the research landscape in publications on ID factors in CALL. Similarly, although the authors noted that they had selected the most innovative and promising CALL technologies, their assertion could have been supported with references to key research in the field (e.g., Göksu et al., 2022; Golonka et al., 2014). For instance, Golonka et al.'s (2014) oft-cited paper on technology types identifies popular technological tools that remain relevant in current research. The topics covered in the present volume include some of the tools and environments acknowledged previously (e.g., blogging, corpora, interactive whiteboards, digital gaming, social networking, and virtual worlds), but others were excluded, such as learning management systems, intelligent tutoring systems, electronic portfolios, electronic dictionaries, and automatic speech recognition. Ultimately, it seems as if the authors included a select group of empirical studies to illustrate a series of points instead of employing a rigorous sampling method. In this respect, prospective researchers might consider carrying out more systematic research into IDs in CALL since such differences are critical for technology acceptance and use among teachers (Yadollahi, 2019). Apart from the selection and sampling issues, the strengths of the book mask other relatively minor issues, such as a lack of examples of less-frequently used methods of data collection and an overreliance on acronyms, which may reduce the readability of the text.

Globally considered, this volume is a timely contribution that presents concise content in a pedagogically appropriate manner. Grabbing this volume for the first time, I was gripped by the title and the introduction, as individual variation among students seems to have the potential to account for different outcomes in similar instructional contexts and practices. This volume can raise SLA researchers' awareness of gaps in scholarly knowledge because, as Pawlak (2022) reports, empirical research on ID factors in learning a second language has often been carried out in general contexts rather than in specific ones like CALL. The readers of this volume will find the book highly valuable as it provides background information on CALL and ID factors, as well as insight into research findings, methodologies, and potential topics for future research. A recent call for papers for a special issue on emotional CALL in *Language Learning & Technology* confirms that the subject of this book has witnessed an upsurge in popularity. Contributors to this special issue could benefit from Pawlak and Kruk's text and the present review.

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