Preface

Computer Assisted Language Learning (CALL) is one of the subfields of applied linguistics that deals with the use of technological innovations in the teaching or learning of a second or foreign language. The goal of CALL is promoting teaching and learning effectiveness and thus its research agenda includes core themes such as teaching practices with technology, technology-based learning activities/tasks, and learners' interaction with technology. The rapid change of technology has made CALL a complex and dynamic area of study and has brought about many challenges and opportunities to the field.

It is known that technological development does not automatically cause outcomes and the way it enables new processes and outcomes depends on many variables. The characteristics of the end users (teachers and students) and the context of technology use are two key factors that influence the way technology is adopted in language classes. A careful assessment of the relationship between human and technology as well as the ecological variations of the context of learning/teaching helps experts and educationists interpret students’ performance and behavior in technology-based learning environments and develop appropriate instructional plans. This ultimately leads us all to a better understanding of what we want to do with technology for our students who are different in gender, age, language proficiency, motivation, self-efficacy, and many other things.

CALL experts are aware of this tremendously important issue in developing CALL materials and integrating them into instruction. In spite of great achievements of CALL researchers in the last four decades, the research paradigm of CALL and individual differences still needs further clarification. In so doing, this handbook touched the topic of research on individual differences in computer-based language learning environments to portray efforts made by CALL researchers and the gaps still exist in the literature on the issue. Valuable original studies done by experts from different teaching contexts showed that CALL researchers are interested in both qualitative and quantitative research methods; are aware of individual differences among their students; and use a variety of technologies to help their students to promote their learning of different language skills and university subjects.

The handbook covers 4 types of research on CALL: review studies, qualitative research, quantitative research, and mixed methods research. The researchers carried out their studies in both English as a Second and English as a Foreign Language settings, with more studies done in the EFL context. Twenty seven CALL experts and scholars have shared their noble and original ideas and research findings with the global scientific community. Pre-service and in-service teachers, high-school and university students, young learners, mothers, and teacher educators are among the samples studies were done on. Gender, age, language proficiency, bilingualism, attitudes, learning strategies, cognitive styles, achievement, and anxiety are among the individual differences the authors have addressed. A wide range of technologies
including wikis, blogs, learning management systems, homework assistance, corpora, multimedia, and m-games were examined in online, blended, and mobile-learning contexts.

The handbook thus functions as an essential reference book for anyone who is interested in CALL research especially those who are interested in how different learners and teachers behave in the context of learning and teaching languages with computers. As the handbook promotes a better understanding of CALL research theory and practice on the issue of individual differences, applied linguists, CALL researchers, EFL/ESL teachers, MA students, PhD candidates, and academicians will find it useful in furthering their research on the suggested topics.

The chapters of the book are organized in 4 sections: review articles, qualitative research, mixed methods research, and quantitative research.

The first section of the handbook includes review articles and the first three chapters that cluster in this section review and present the background of CALL and individual differences. This section opens with a chapter on the overview of the significance of different learner characteristics in computer-based language learning environment by Somayeh Foroozesh-nia. The chapter explores the importance of different types of individual differences in various computer-based language learning situations and outlines the findings of some research on language learners’ characteristics in the context of technology-based learning. Through extensive review of research studies and articles, the author attempts to determine different learner characteristics existing in learning foreign/second languages with technology. The chapter also discovered the most effective individual differences among language learners of computer-based environments to be used by EFL teachers and materials developers to help learners’ progress in language education.

Chapter Two also focuses on an overview of CALL and individual differences. Maryam Tayebi Nik and Marlia Puteh highlight the importance of including individual differences in CALL studies by reviewing related literature. However, their approach is essentially different from the first chapter in a sense that the authors have utilized an inductive approach to develop a framework based on the reviewed literature to guide further research to fill the gaps that exist on the issue of individual differences and CALL.

In Chapter Three, Samaneh Yadollahi has focused on language teachers’ differences in CALL and investigated two sets of variables affecting teachers’ use of technology in language classes, personality characteristics (age, teaching experience, and gender) and technology-related variables (computer literacy, anxiety, attitude, use and ownership). She presents a comprehensive review of literature done on the role of these factors in language teachers’ acceptance and use of technology in language classes.

The second section includes the studies that have adopted a qualitative research method. Two chapters of this section have focused on teachers and their views towards CALL by considering their individual and contextual factors. Two chapters focus on using technology to teach English in language skills (writing and listening) while attitudes and learning strategies are focused on. One chapter focuses on changes that happened in a CALL environment utilizing a longitudinal study carried out in a linguistically heterogeneous context.

The section opens with Chapter Four, the case study of Alice Ebrahimi and S. Susan Marandi on individual differences among student teachers in taking an online Corpus Linguistics (CL) course. This chapter reports on a qualitative study that explored a range of variables related to student teachers’ personal and professional backgrounds as well as group dynamics influential in the adoption and application of CL training by student teachers. Through analyzing surveys, interviews, and students’ written evaluations of the course, they found that years of teaching experience, characteristics and beliefs, prior
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experience of online communication, access to technology, and familiarity with and attitudes toward CALL play a crucial role in this regard.

In Chapter Five, written by Parivash Mozafari and David Wray, the authors examined the perspectives of a group of language teachers who worked in an EFL setting on the integration of ICT into their teaching practices. The chapter underpinned a socio-cultural epistemology and utilized an interpretivist qualitative paradigm and both individual and contextual factors were considered in shaping the perceptions and practices of these teachers. In so doing, in-depth data were collected based on face to face individual semi-structured interviews that were guided by classroom observations. Thematic analysis of the data indicated that ICT uptake by participants was seriously hampered by several interacting and interrelated areas that influenced participants’ perspectives and practices. These include inadequate technological infrastructures (in and out of schools’ settings), nature of the curriculum (content, delivery, assessments & multimedia presentations), teachers’ views and expectations related to the pedagogical impact of ICT, and their self-efficacy beliefs.

In Chapter Six, Elham Soleymani has compared and contrasted a Digital Immigrant’s reflection and some Digital Natives’ perceptions of the same CALL environment. The Digital Immigrant was the teacher who educated herself to use digital stories in listening instruction. Her students were all digital natives. The teacher’s reflection was accessed through her log she had written for around 6 months. Her students’ perceptions were gained through focused group interviews. Interesting ideas emerged when the two perspectives were compared in their four aspects of the whole person, i.e., cognition, emotions, social relations, and self-actualization.

The author of Chapter Seven, Güliz Turgut Dost, reports the findings of a qualitative case study that aimed at understanding the changes that happened to a laptop initiative implemented at an urban middle school with diverse student population. The study investigated the changes in the initiative beyond its establishment phase and focused specifically on English Language Learners (ELLs). Data were collected through semi-structured interviews and classroom observations. Three main changes were identified: teachers’ attitudes towards and students’ proficiencies in use of laptops, the nature and amount of laptops’ use, and the consideration given to English Language Learners.

In Chapter Eight, Revathi Viswanathan discusses an action research that focused on strategy training in teaching writing skill to students with the help of a Wiki. The students were engineering college students who needed writing skill for their later profession that is working in industry. The results suggested promising findings with respect to students’ strategy use and enhancement of writing skill with the help of the Wiki.

The third section of the book has four research reports written based on triangulation and using mixed methods research. These studies have examined the role of individual differences in learning with corpora, m-games, and blogs.

In Chapter Nine, Giovanna Carloni reports how corpora can be effectively used to teach English content-specific vocabulary and academic language to university students through corpus-related activities while catering to learners’ cognitive styles in a sociolinguistics course. Examples of activities are provided and the role of cognitive styles in task performance is analyzed. Foreign language acquisition and the personalization process are discussed within an applied corpus linguistics framework.

In Chapter Ten Amir Mashhadi and Saeed Khazaie endeavored to devise a motivating way to engage young language learners in English learning tasks presented through the mobile game (m-game). It started on the issue of whether types of a displayed picture on m-games had any significant relationship with learners’ performance in the blended mode of L2 learning. To that end, a cellphone-based form of the
non-English game of ‘Xane Bazi,’ modified as didactic ‘Xane Bazi’ for English vocabulary learning, was grafted onto the face-to-face mode of content representation in the blended language learning module. Utilizing both an experimental and interview survey results hinted at the desired effect of utilizing m-games as applying learner-made painting condition to didactic ‘Xane Bazi’ was proved to significantly ratchet up the participants’ L2 learning.

In Chapter Eleven Fatemeh Nami reports the findings of a case study on the impact of individual differences on different undergraduate students’ perceptions of English writing practice in blogosphere. Data were collected from participants’ responses to a post-course written interview. Adopting qualitative and quantitative data analysis procedures, it was observed that English language proficiency significantly influenced students’ perceived effectiveness of writing practice in the classroom blog.

In Chapter Twelve, Shahin Vaezi and Ehsan Abbaspour investigated whether there is any statistically significant difference between the effects of asynchronous online peer Written Corrective Feedback through blogging and face-to-face peer Written Corrective Feedback on the writing achievement of EFL learners. The study also investigated the extent to which students revise their writings based on peer comments provided. This study also measured the attitude of students towards peer Written Corrective Feedback (WCF) through blogging as compared with that of the participants receiving face-to-face peer WCF. The findings indicated that there is no statistically significant difference between the effects of face-to-face and asynchronous online peer WCF on the writing achievement of EFL learners. In terms of the extent of incorporating the peer comments in their final drafts, the participants in the face-to-face group incorporated more of the comments they received into their second drafts in comparison with the online group. Finally, it was revealed that the participants of each group generally expressed their satisfaction with both methods of peer review.

The fourth section of the book includes the studies with quantitative designs. In the first chapter of this section, Chapter Thirteen, Maryam Gharib Garakani depicted the perception of usability of an educational website among EFL students among male and female medical science students. The students were asked to use an educational website the instructor designed to support in-class instruction to learn English as a foreign language. At the end of the course students were given a usability evaluation questionnaire to evaluate usability of the website with respect to: content, navigation, user interface design, performance and effectiveness, general instructional objectives, the website parts, and language related objectives. It was found that students were roughly satisfied with the usability of the website. Further, user interface design of the website was considered to be usable while the performance and effectiveness of the website were not perceived to be very useable. Comparison of female and male participants showed that in general female students were more satisfied with the usability of the website, specifically with the user interface design of the website.

In Chapter Fourteen, Masoumeh Hasani investigated the attitudes of mothers with different educational background, age, and profession towards the use of CALL in their children’s language learning. Mothers’ attitude towards CALL was assessed by a 12-item questionnaire. The result of data analysis revealed that generally mothers have roughly positive attitudes towards CALL. Significant differences were reported when mothers with higher education were compared with those mothers who did not have university degrees. However, gender, age, and mother’s profession did not have any role in their attitudes towards CALL.

In Chapter Fifteen, Ruya Khoii and Zahra Arabsarhangi reported the findings of a study that employed wikis’ collaborative environment for teaching writing to young EFL learners. Sixty female students at junior high school divided into one control and two experimental groups based on their writing scores
participated in this study. Collaboration was the key concept in both experimental groups, where the members wrote through interaction with each other and used peer correction. However, in one of them, the writing activities were conducted in the wiki environment, while in the other the students wrote following the norms of a collaboration-oriented class. The students in the control group wrote individually and were corrected by their teacher. The obtained results indicated that, although both experimental groups had outperformed the control group, the collaborative activities in a technology-oriented context involving the use of wiki pages had contributed to greater progress in the acquisition of the writing skill and produced better student writers.

In Chapter Sixteen, Claudia Beatriz Monte Jorge Martins and Herivelto Moreira described the technological profile of Brazilian foreign language teachers. The theoretical framework used was the Diffusion of Innovations theory. A quantitative methodological approach was employed to collect data and a survey questionnaire was developed. Rogers’ (1995) Individual Innovativeness theory was used to classify respondents into adopter categories. Statistical analyses were performed to examine the relationships between adopter categories, teachers’ attitudes, teachers’ digital literacy, teachers’ personal characteristics and teachers’ prior technology education. The results obtained provided a detailed picture of the ones responsible for the education of future FL teachers in Brazil. With this technological profile, it was possible to reveal the “who” in the process of CALL integration. It is essential to understand and address differentiating needs of FL teachers for large-scale CALL adoption and real integration in the classrooms.

In Chapter Seventeen, Ghodrat Momeni investigated the impact of corpus-based vocabulary teaching/learning on vocabulary retention among EFL learners with different levels of language proficiency. Four groups of students (two experimental and two control groups) participated in the study. The experimental groups received vocabulary instruction based on the techniques and procedures of the lexical approach. The control groups were taught with conventional techniques of vocabulary teaching. Vocabulary learning and retention were assessed by two vocabulary tests taken immediately after the treatment and with a 2-month delay respectively. The results showed that the lower proficiency experimental group outperformed other groups in the first vocabulary test, while in the second vocabulary test no significant difference was found between experimental groups with different language proficiencies.

In Chapter Eighteen, Mehrak Rahimi compared the impact of using a learning management system on pre-service and in-service teachers’ evaluation of a teacher educator in a teacher training university. Two groups of students participated in the study and for one semester experienced a blended learning where the extension of academic activities of the course Materials Evaluation and Syllabus Design was presented via a learning management system online. At the end of the course both groups’ evaluation of the instructor’s teaching was compared in two aspects: teaching style and student-teacher interaction. The result showed that there was a significant difference between the two groups’ evaluation of the educator. Pre-service teachers were found to have higher attitudes towards teaching effectiveness and they were more satisfied with both teacher’s teaching style and social behavior.

In Chapter Nineteen, Mehrak Rahimi and Zahra Bayat investigated the relationship between EFL learners’ online information seeking anxiety and reading ability considering gender. In order to measure English reading ability, the reading section of Primary English Test (PET) was used. To assess online information searching anxiety, Information Seeking Anxiety scale was used. The results of the correlational analysis showed that there is a negative relationship between anxiety (and all its components) and English reading. When male and female participants were considered separately, English reading was not found to be related to anxiety among boys; while it was moderately associated with anxiety
among girls. The result of regression showed that EFL reading ability is a significant predictor of online information seeking anxiety and can predict more than 7% of the variance of online information searching anxiety; however the power of reading to reduce searching anxiety was found to be much stronger (more than 18%) among females.

In Chapter Twenty, Mehrak Rahimi and Seyed Shahab Miri examined the impact of using a leaning management system (LMS) to manage homework assignments on students’ achievement in a writing course. Additionally, the relationship between students’ attitudes toward the online system and their motivated strategies for learning was investigated. Two groups of students participated in the course. The experimental group used the LMS as the homework assistance to submit their homework for one semester. The control group did and delivered their homework using paper-and-pencil approach. The result of the data analysis revealed that the experiential group outperformed the control group in the writing post-test. Further, the students were found to have positive attitudes toward using technology to manage their homework and this attitude was found to be related to their motivated strategies for learning. The motivated strategies were found to be related to achievement in writing, while attitudes towards the system were not.

As it can be seen in the table of contents of the handbook, The Handbook of Research on Individual Differences on CALL addresses a variety of topics that are in need of more attention from CALL researchers when differences among people are concerned. One important issue is the type of research method that is utilized. Almost half of the chapters of this handbook are reports written based on qualitative and/or mixed methods research and around half of the authors have utilized a quantitative research method. It shows that CALL research on individual differences follows both paradigms of research giving a useful and practical guide to researchers who are interested in either or both of these research paradigms.

Individual differences affect people’s abilities and predispositions in learning in general and in technology-based environments in particular. This handbook will provide a glimpse of how these differences in EFL and ESL settings can impact our technology-based language classes. This makes all of us more aware of the fact that our learners are different and they learn differently as we-as teachers- are different and we teach differently.