Widespread use of information and computer technology may conjure up the thought that there is no need to train teachers on how to apply the principles of Computer Assisted Language Learning (CALL). However, *CALL Teacher Education: Language Teachers and Technology Integration*, by Simone Torsani, proposes that technology has been poorly integrated into language teaching. The main objective of CALL teacher education (CTE) has been specified as developing “in teachers the knowledge of the technological options available and the ability to combine them with their knowledge of language teaching” (p. xvi). The volume is organized around ten chapters each beginning with a brief overview followed by detailed discussions of related concepts and issues.

Chapter one deals with such preliminary issues as CALL definition, historical development, and research themes. As regards definition, a narrow view, focusing on the use of computers in learning only, is contrasted with a broad perspective involving the use of any systems, applications, and networks which rely on computer chips for language learning/teaching. Historically, in the behaviorist phase (50s-70s) computers were used to design drills and check grammatical accuracy. In the communicative phase (70s-90s), computers stimulated learners' interaction. The integrative phase, spanning from the 90s onward, embodied social and pragmatic aspects of language with an emphasis on the use of the Internet and multimedia. CALL, also, has an interdisciplinary nature related to, for instance, computational/corpus linguistics and language assessment.

Chapter two posits that CTE should be about raising awareness of the potential that technology offers to language education. This may happen either by choosing tools based on linguistic goals or through exploring advantages technology may offer. In linguistic/pedagogy-driven approach,
descriptions of linguistic objectives are given prominence to technological considerations. This approach has recently been criticized, however, on the grounds that it reduces CALL into a mere tool for transmitting linguistic patterns rather than a change factor in language education. The proponents of the alternative perspective call for a symbiosis between linguistics and technology. Here, such CALL options as opportunities for interaction through social networks (Kelly & Antonio, 2016) are elaborated.

The third chapter focuses on the complexity of integration and specifies a number of factors which cause that complexity including macro-economic and social, geographical, institutional, language teaching, logistic and contextual, and human factors. For language teachers, integration is a process followed by the transfer of knowledge learned in a CALL course to actual teaching. The struggle between CALL knowledge and contextual realities results in consequential transition which, in turn, culminates in the reconstruction of language teaching knowledge.

Chapter four begins with an elaboration of CTE peculiarities and reasons for the scarce diffusion of CTE courses, including change avoidance and lack of infrastructure, staff, and methods for teaching technologies. A CTE model is, then, proposed which starts with needs analysis to identify pedagogical and technical knowledge/skills followed by the design of appropriate methods and evaluation standards. The model requires a number of trends, including the selection of materials and online teacher training courses. The chapter concludes with CTE research themes and methods common in general teacher education research.

Bridging theory to practice, chapter five introduces a number of CTE competences models, frameworks, and standards. For instance, Technical Pedagogical Content Knowledge-in-Action model goes from instructor-controlled through collaboratively-controlled to trainee-controlled activities. CTE instructional frameworks also represent a trajectory from teachers-as-experts-in-technologies view at one end of the extreme to teachers-dependent-on-IT-professionals at the other with recent struggle for integration. The most practical documents, nevertheless, are such guidelines as Teachers of English to Speakers of other Languages (TESOL) Standards with the three degrees of ‘approaches’, ‘meets’, and ‘exceeds’ standards to describe a teacher’s technological competences and Standards for Language-Teaching Technologies including ‘can do’ statements with reference to particular technologies.

In terms of methodology, a breadth first approach to CTE focuses on the development of technical and linguistic skills whereas an in-depth approach aims at developing the ability to use a particular technology. The latter is criticized for being too technical, offering no opportunities to connect technology to linguistics, and ignoring transfer skills. Integrated and online approaches are similar in the use of technology in real contexts while being different in that in the integrated approach technology is used when necessary whereas the online approach, due to its nature, relies on technology for its very existence. CTE processes also include lessons, demonstrations, projects, situated learning, and reflective learning. Alternatives to these formal learning methods include mentoring, communities of practice, and autonomous learning (Macià & García, 2016). Throughout chapter six there are examples of studies illustrating how these approaches, processes, practices, and self-directed learning strategies can be actually realized.
Chapter seven is devoted to the Internet and smartphones integration models and practices. The pyramid of skills model has seven levels with basic informatics skills at the bottom and the ability to integrate the Internet in one's personal teaching style at the top. This model has been criticized for its vertical (linear mastery of skills) and generic rather than techno-linguistic character. The next model takes the form of a grid allowing interactions between technology, pedagogy, and evaluation on the one hand and the competence levels of novice, proficient, and expert on the other. The performance descriptors of this model help teachers to self-assess their Internet competences. There is also a telecollaboration model which provides forty 'can do' statements organized around organizational, pedagogical, and digital competences along with attitudes and beliefs. Computer mediated communication and distance-teaching are the most common processes used to train teachers in this domain.

Chapter eight focuses on a model of CTE procedures in which teaching activities are organized into the three areas of linguistic, procedural, and technical. Regardless of the area, each activity must be specified for its objectives, estimated level of difficulty, required tools, and online feasibility. Simulation, reflection, evaluation, and observation are examples of linguistic activities. Procedural activities, such as tutorial and demonstration, are aimed at developing the knowledge of a particular technology irrespective of its linguistic use. An instance of technical activities, which realize the integration of the activities from the first two areas, is project work.

The last two chapters provide a synopsis of the whole volume. Chapter nine, first, observes that designing CTE courses is difficult because of the trainees' heterogeneous technological skills. It, then, demonstrates the application of proposed principles to designing tentative CTE courses for pre-/in-service teachers and CALL specialist/professional researchers and developers. Finally, chapter ten proposes that CTE should set mapping its terrain and relationship with other areas such as second language teacher education as its overriding priorities. The chapter comes to an end with designating curriculum development and evaluation as the two main areas for CTE future research agenda.

The volume revolves around the idea of training language teachers to integrate technical knowledge into their language teaching knowledge base to associate each technology with a meaningful activity in language education. Integration gives CTE its character as a branch of study and protects it against the idea of normalization, or everyday use of technology in all walks of life, which eradicates the need for CTE courses. The volume makes reference to the latest developments in CALL and CTE, and different perspectives are presented and carefully criticized in all chapters.

There are a number of editing problems, however, which deserve the publisher’s full consideration in the future reprints/editions of the volume. Some of the blunders that may bother a careful reader’s eyes include:

- Spelling mistakes (page 9, interactionist for interactionist; page 152, modeling for modeling; page 167, the wealth for the wealth; page 182, that for than)
- Unnecessary capitalization (pages 23 and 24, Language)
- Stranded letters (page 26, n; page 123, f) and words (page 112, competences)
Apart from these non-impeding slips, the strength of the volume lies in its elaborate explanation of theoretical principles and detailed consideration of practical procedures. The volume is, in fact, encyclopedic in terms of CTE teaching activities and processes. Therefore, it can hopefully attract a wide readership among scholars in second language teacher education, CTE, and curriculum design.

References
