

## Book Review

# Task-Based Language Learning in a Real-World Digital Environment: The European Digital Kitchen

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*Task-Based Language Learning in a Real-World Digital Environment: The European Digital Kitchen*

Edited by Paul Seedhouse

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288pp.

\$ 83.20

ISBN: 9781474264075

With an aim to establish a set of principles that can inform the design and development of future digital environments, *Task-based Language Learning in a Real-world Digital Environment: the European Digital Kitchen*, acts as a guide for future digital environment development projects. The sections of the book detail how the European Digital Kitchen (EDK) came to be; the first part of the book moves from the theoretical inception of the project through to the details in the design with regard to pedagogy, technology, and viewpoint.

The second half of the book explores the implementation of the EDK; this is done by reviewing different elements of language learning through a variety of lenses, taking into account the experience of participants in five European countries. Finally, the book concludes by considering how the principles for creating pervasive environments can be used in other disciplines and support learning in settings other than the classroom.

In the Introduction, Paul Seedhouse outlines the structure of the book, and provides clarification for a precise understanding of key terms and concepts essential to the authors' arguments: 'digital' referring to the use of digital sensors to track actions, 'real-world' highlighting the kitchen setting and cooking element, and 'pervasive' meaning an 'application of digital technology' that is mostly passive and responds to prompts. Here, there is an emphasis on the deficit of research that considers how pervasive computing can be applied to language learning. The EDK looks at several elements of language learning and how they can be supported through the digital technology, notably with regard to vocabulary.

The writers also make a distinction for their classification of digital learning environments and limit pervasive to a singular “ubiquitous environment” –a kitchen (Ogata, 2008). The rationale for the kitchen setting is further linked to the cultural experience. It is argued that cooking has a natural relationship with culture and language; a relationship with society that “is an inextricable one” (Ayeomoni, 2011, p.51). This addition of the cultural element is another distinct feature of the digital environment. The experience of cultural exchange and the physicality involved in preparing the dish further distinguish the EDK as supporting multimodal language learning and being multisensory; students trigger all senses when working in the EDK.

Another problem the digital environment is said to respond to is the need for more task-based language teaching to incorporate real-world applications. The EDK is presented as an ideal way to explore how task-based language teaching (TBLT) can work in conjunction with acquiring a non-linguistic skill, such as cooking. An example provided of this blend is *English through Music* by Paterson and Willis (2008); their project focuses on children absorbing English while making music in a group setting outside of the classroom. It is noted, however, that the EDK goes beyond this by including digital technology and is among one of the few projects that uses TBLT outside of the classroom and in an ordinary environment.

One limitation addressed by the authors is that the consistent nature of technology means that the advancements in digital technology will likely advance beyond the examples and case studies shared in the book within a short span of time. This is addressed by the main argument, which is to establish a general set of principles to support the development of other pervasive learning environments.

The key principles proposed are explained within the chapters to demonstrate how they can be applied in the creation of a digital environment through all steps from research and planning, to design and implantation. These principles emphasize the need for ‘real’ elements from the application of the task—cooking and consuming a dish—to tangible objects—manipulating utensils. The authors expand on how these principles can be applied directly to specific aspects, such as the design and use of digital sensors.

In the next chapter, Sandra Morales places the EDK within a theoretical context. In this section, it is noted that there is a wide variation in approaches to language teaching and the promotion of second language acquisition (SLA). Morales draws on Hall’s (2011) use of the term ‘methodological eclecticism’, where the current approaches and methods for language learning draw on a wide range of theoretical and pedagogical principles in the design and structure. The dominant approaches used in the overall design of the EDK project are communicative language teaching, task-based language teaching, computer-assisted language learning (CALL).

It is the authors’ blend of these approaches and awareness for this to contribute to successful SLA where the unique features of the project are highlighted. The EDK’s method for language support adapts a collaborate approach, considering and incorporating best practices from several different areas of language learning. Pairing teaching approaches with the digital framework also furthers the discussion of digital environments and their potential role in learning contexts.

There are several aspects under consideration in Part 2, Design, from the pedagogical underpinning for the design of the EDK to the way technology is used, especially with regard to the use of digital sensor technology. While the final chapter in this section considers the consequences of using different transcription models to analyze the language learning taking place in the EDK.

With regard to pedagogy and the design of the EDK, Seedhouse identifies task-based language teaching as the primary principle governing the setup of the kitchen and the activities that participants complete, following a pre-task, during-task, and post-task structure. This chapter looks at the second generation of the digital kitchen, the French Digital Kitchen project. Seedhouse explicitly matches the tasks required of participants and the guiding principles established in the introduction to further demonstrate the adaptability and potential application of these principles for future projects.

The main pieces of technology discussed in chapter 4 are the digital sensors and the graphic user interface (GUI). As the digital sensors become an embedded element in the kitchen, they are able to both track actions and facilitate integration between the participants and the kitchen. This works in conjunction with the GUI to support integration with the EDK system. The GUI is necessary for L2 input as it plays audio files with instructions and guided assistance, which can take the form of videos, images, and recordings.

Chapters 4 and 5 are thorough and provide clear guidance for an audience interested in designing their own digital environment. As the book is collection of case studies, the contributors address the implantation of design and digital elements from multiple perspectives.

The authors of Chapter 5, Natacha Niemants and Gabriele Pallotti, address the advantages and disadvantages of considering the kitchen as a participant in the project. They present some intriguing insights about the way in which interaction is defined. They note that the use of the sensors by the participants provide one way for the system to know when to intervene and offer aid. The extent to which these interaction logs provide analysts with a way to ‘see’ the kitchen’s viewpoint leads the authors to consider how all of this information should be included on transcripts, which establishes a baseline for those who wish to design similar models in the future.

The data collected in the digital kitchen is collected in several ways: videos, transcripts, and data from the sensors. The authors detail how each of these sources of data reveals only a portion of the story with regard to language learning. Ultimately, these lead to the argument that the most comprehensive analysis is only possible when the transcript reflects, in some way, all of these different data sources at once. This also allows for the interactive elements to be further observed as the human interaction can be seen on the transcript and in the videos and the kitchen’s viewpoint of the experience is noted in the data generated by sensors. As their example points out, this acts a way to identify any malfunctions with the kitchen and sensory system.

The second half of the book, Part 3 Implementation, describes the experiences of participants using the digital kitchen. Transcripts of cooking sessions are provided to demonstrate how the EDK supports learning in two areas, i.e. listening comprehension and vocabulary learning. In general, Part 3 provides a clear, detailed, and well-documented illustration of how the EDK works and its implications for language learning. Two points should be considered, however.

The first concerns the use of the Common European Framework of Reference for Languages (CEFR) to evaluate participants’ language proficiency. In Chapter 6, Jana Roos et al. describe how the researchers rated participants’ listening comprehension against the CEFR descriptors for the categories “overall listening comprehension” and “listening to announcements and instructions” by creating parallel descriptors that apply specifically to the EDK (Table 6.1).

The LanCook descriptors quite accurately reflect the CEFR descriptors for “announcements and instructions”. For example, the CEFR A1 descriptor, “Can understand instructions addressed carefully and slowly to him/her”, translates well to “Can understand instructions when speech is slow and he/she can make use of the help function”. The LanCook descriptor refers to the fact that students can use the help function to, among other things, hear instructions repeated more carefully and slowly. At the higher levels, the LanCook descriptors are actually more precise than the CEFR, as they discriminate between C1 and C2, which the CEFR does not.

However, the CEFR descriptors for “overall listening comprehension” are less relevant to the EDK, especially at the higher levels. For example, the CEFR C1 descriptor, “Can understand enough to follow extended speech on abstract and complex topics beyond his/her own field, though he/she may need to confirm occasional details, especially if the accent is unfamiliar”, is only tenuously connected to the parallel LanCook descriptor, “Occasionally makes use of help function during cooking, for example, for more complex instructions or where accent is unfamiliar”, as the cooking instructions are not “extended speech” on an “abstract and complex topic”. Thus, the authors might reconsider including “overall listening comprehension” descriptors in their assessment of EDK participants.

Furthermore, Chapter 7, written by Salla Kurhila and Lari Kotilainen, focuses on productive language skills, specifically, negotiating meaning. Transcripts of cooking sessions illustrate the ways in which the participants work together to correctly interpret the kitchen's instructions. Depending on their proficiency in the target language, participants communicate in either the target language or in another common language. A useful addition to Chapter 7, therefore, would be a discussion of whether the CEFR "goal-oriented co-operation" descriptors can be used to track proficiency and gains in the target language.

Chapter 8, written by Dolors Masats, Marta Juanhuix and Javier Albines, documents the progress of one particular student through four cooking sessions, and transcripts are provided to illustrate her high level of motivation and emotional involvement in the learning process. The implication is that the EDK, and task-based learning in digital environments in general, are intrinsically motivating. However, it is doubtful whether people who dislike cooking would be as incentivized to perform well. Chapters 9, authored by Gabriele Pallotti, Natacha Niemants and Paul Seedhouse and Chapter 10, written by Jaeuk Park and Paul Seedhouse, focus on vocabulary learning and offer transcripts of cooking sessions as well as quantitative data demonstrating that participants learned new vocabulary items better in the digital environment than in the classroom.

The second point to consider is learner motivation. Chapter 11 suggests that future digital environments might include a science laboratory or a medical setting, places where equipment and other paraphernalia must be manipulated in a particular way to achieve a correct result. The benefits for students of language for specific purposes (LSP) are clear. On the other hand, such a tailored learning environment may not interest or motivate students in a general language program.

In the final analysis, the book presents a convincing argument for the digital kitchen concept and its expansion into new areas of study. While the book provides a sound guide for further development using digital environments, it does not fully support the link between cooking as a cultural experience or a motivating factor as enjoying watching cooking programmes does not necessarily equate a motivation to cook. These two aspects seem to be given a light touch in comparison to the detailed review of the research, design and implementation of the project. Within the construct of the EDK, culture appears to be addressed strictly through the informative element of the kitchen, explaining the origin and relevance of the particular dish being prepared. This could be an issue that anyone looking to take the research further might consider, attempting to integrate the cultural element further into the design of the environment. Perhaps this can be achieved through aesthetics or continued reinforcement as to why certain ingredients or techniques are used from a cultural perspective.

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