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ONLINE INSTRUCTIONAL PERSONAL ENVIRONMENT FOR DEEP LANGUAGE LEARNING

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Abstract

This article focuses on the creation of instructional materials that serve as a personal environment for learning a less-commonly-taught language. The study aims to raise awareness of ways in which digital personal learning environments can be used in tandem with more formal learning strategies. The study explores self-regulated language learning within personal environments created for intermediate and advanced Turkish. We reviewed the conceptual background for the approach as well as the project-based learning strategies scaffolded in the online thematic materials. Through a 3-year longitudinal inquiry and semi-structured interviews with eight instructors who implemented the approach in four universities, the authors analyze the impact of personalized learning in developing deeper levels of language apprenticeship. The instructors we interviewed report increased growth in proficiency and accuracy in linguistic and cultural learning, as experienced in their courses through their formative and summative assessments, as well as the realization of most pedagogical goals related to language acquisition in a rich format. In light of the needs for teacher education adapted to new technologies, the paper highlights the difficulties of pedagogy for autonomy.

*Keywords***:** Personal learning environments; self-regulated learning; second/foreign language learning; less-commonly-taught language; deep learning; postsecondary education.

1. Introduction

Ubiquitous technology offers new approaches to computer-assisted learning. It is now possible to go beyond the boundaries of the classroom thanks to personal learning environments (PLEs) that students can use anywhere (Attwell, 2007). By integrating lifelong learning with technologies, PLEs support self-determined and self-regulated learning, allowing a student to draw connections from resources that he or she selects and organizes. The student can also engage in personalized collaborations with other students. Thus, PLEs can be understood as complex knowledge systems helping students organize their learning freely and thus take ownership of it. "This includes providing support for learners to set their own learning goals, manage their learning, managing both content and process, communicate with others in the process of learning, and thereby achieve learning goals" (Van Harmelen, 2006, p. 3).

PLEs can support deep, project-based learning (Beckett & Miller, 2006). In order to create inquiry-based projects for language and culture learning, our research team gathered numerous instructional materials, including links to various technologies and resources, to

create a "deep approach to Turkish teaching and learning" (DATTL) website that served as a cross-university online instructional textbook. The technologies we used to support DATTL (e.g., streaming videos, PowerPoints) are integrated into thematic modules for self-directed learning on the part of the language student. These modules are nested in multiple layered connections in the online materials our research team created.

Our research study examined if and how such technologies and open resources can support self-directed learning in less-commonly-taught languages, such as Turkish. PLEs are available for Turkish language learning in various colleges in the United States (Tochon, Argit-Ökten, Karaman, & Druc, 2009–2012). To investigate *teacher perceptions* related to students' use of authentic Internet-based PLEs in Turkish language and culture courses, we interviewed college instructors who tried the new approach with their students in intermediate and advanced level courses in Turkish. In addition to the interviews, we collected data from a forum website to which instructors were invited to contribute. Additional sources of data included classroom observations and Skype conversations with the instructors. We analyzed these data to determine if the e-learning environment changed instructors' perceptions about language learning.

2. Theoretical background

This section examines the concept of PLEs, existing materials for Turkish instruction through a PLE, and how PLEs can make a positive difference in instruction. We analyze the role of PLEs for deep language learning and their embedment into broader, significant expression and interactional projects. Crucial to the use of PLEs, then, is to examine issues related to self-regulated learning and autonomy in teacher education.

2.1 Deep, Self-Regulated Learning

The question at the heart of our study is whether new technologies can be organized to support deep learning in one of the less-commonly-taught languages. Educational technologies can offer procedures and guidance to help people develop instructional materials (Reigeluth, 1999). Yet, there is an ongoing debate as to whether technologies lead to shallow learning (Carr, 2011) or deep education (Tochon, 2010a). Many studies in higher education tried to define deep learning (e.g. Marton and Säljö, 1976; Entwistle, 2000). For example, Ramsden's (1992) study contrasted surface learning, which focuses on forms and signs, with deep learning, which focuses on meaning. Surface learning involves the memorization of unrelated parts without reflection; it is external and fragmented, as it is mainly concerned with assessment. Conversely, deep learning links new knowledge to prior knowledge across fields; it is internal, holistic, and most often self-regulated.

Deep learning requires a personalized environment (Tochon, 2010b), and Van Lier (2010) drew attention to the interdependence of agency, autonomy and identity, which are essential to human learning. Agency is understood as the capacity for self-determination and decision-making, and the ability to take responsibility for actions. If we can organize online open resources by themes that can be freely selected and thus support agency, there is an opportunity that such organizational environments will help scaffold deeper learning on the basis of shared intrinsic motivation. A body of studies in applied linguistics seems to concur with this hypothesis by focusing on how languages are learned when autonomy is provided to the learner. The instructional trend, formerly oriented towards teachers, is now more and more directed towards how learners can determine their own learning environments in a way that is in large part self-determined (Syed Khuzzan, Goulding, and Underwood, 2008).

A PLE is a set of instruments loosely joined in ways that work for the individual, as it can be adapted to each person. Schaffert and Hilzensauer (2008) identified the most important aspects of PLEs:

- Learners are active, self-directed creators of content;
- Learners have ownership of their data and are socially engaged;
- Content is personalized with the support and data of community members;
- Learning resources are authentic and almost infinite, like an open "bazaar";
- Self-organized learning has priority in contrast to the culture of most educational institutions; and,
- The use of software tools is social and aggregates multiple sources.

Studies indicate that these features of PLEs can be highly motivating. Yet, today's teachers and students might be unused to an environment where interaction is critical. Building and using a PLE is a challenging task which requires specific teacher and pedagogical support" (Valtonen et al., 2012, p. 732). In such a learning environment as the PLEs, both teacher and student must learn to scaffold learning with a new approach.

Within the concept of PLE, learning is framed as ongoing and autonomous Valtonen integrate formal and informal learning using online resources and social media to support student self-regulated learning. A PLE acknowledges the role of the human in organizing his or her own learning and curriculum, is compatible with deep learning, and allows learning on demand (Dabbagh & Kitsantas, 2012). Through PLEs, learning takes place in various contexts and situations and is not provided by a single instructor, resource, or provider. Informal, self-determined learning becomes of utmost importance in the approach: "it is not just the appeal of communication which is drawing young people to these technologies. It is the ability to create, to share ideas, to join groups, to publish—to create their own identities which constitute the power and the attraction of the Internet for young people" (Dabbagh & Kitsantas, 2012, p. 4).

2.2 Self-Regulated Learning and Autonomy in Teacher Education

Jiménez Raya, Lamb, and Viera (2007, p. 1) define both teacher and learner autonomy as the "competence to develop as a self-determined, socially responsible and critically aware participant in (and beyond) educational environments, within a vision of education as (inter) personal empowerment and social transformation." To stimulate a pedagogical orientation that supports autonomy, we created the DATTL website with plenty of resources for students to create their PLEs on the basis of the thematic modules we provided. The way language programs shape the lives of instructors and the life of language learners is puzzling when considered from the perspective of the need for more autonomy to increase learners' motivation and program effectiveness. Instructors may have to re-examine their preconceptions about self-regulated learning and accept the challenge of opening new and unconventional routes to learning. The need for autonomy in pedagogy embarks language instructors on a journey of self-discovery and innovation to promote learners' reflectivity and self-regulation (Jimenez Raya, 2011).

Karaman, Ökten, and Tochon (2012) analyzed whether such a new approach might first require teachers' open-mindedness to student autonomy and willingness to relinquish some control. Teachers' resistance to change in teaching foreign languages is not uncommon. Indeed, the many critiques from the teachers in our study focused on how components of the proposed framework might fail compared to traditional practices.

Deep learning encourages local and open pedagogies that radically differ from traditionally structured approaches that offer generic solutions and, as such, it calls for a thorough reflection on the part of teachers. There clearly is a tension between teacher autonomy and learner autonomy, which had previously been highlighted by Little (2007) and Jimenez Raya, Lamb, and Vieira (2007). While teachers giving up some of their autonomy might go against the educative grain and lose some motivation, deep learning is only possible with some form of autonomy for the teacher educator, the teacher, and the learner (Tochon, 2013). The concept of teacher effectiveness must be reviewed in the light of this need for autonomy at all levels.

2.3 Integrating the PLE Concept

To encourage deep learning, the curriculum designer should create complex, open, flexible, and holistic approaches to the subject matter, along with integrative overviews focusing on large, important issues. It is necessary to identify the threshold concepts with examples and clarify the learning strategies through templates. In addition, it is important that the curriculum designer analyze the congruence between these principles for deep learning and the way teaching and learning is actually organized to see if the environments proposed might interfere with students' access to a deeper understanding (Entwistle, 2008, p. 23). Thus, there should be a congruence between deep learning as a target and the learning environments created; this includes the instructional resources and course materials, a link that this paper explores through the language teachers' perceptions.

In his review of state-of-the-art materials for language learning and teaching, Tomlinson (2012) examined the role of new technology and its radical development. There is a risk that technology can drive pedagogy, rather than the opposite (Mukundan, 2008; Tochon & Black, 2007). Furthermore, there is a great need for authentic and humanizing materials in the language arena. "Commercially published course books [are] insufficiently humanistic" (Tomlinson, p. 163); "as revealed in the research literature, whether Computer Assisted Language Learning (CALL) materials facilitate learning depends on how the technology is implemented" (p. 165). CALL can free instructors and learners from the constraints of the textbook (Maley, 2011). In this respect, instructional materials to scaffold open projects could address this issue. A brief review of online materials available for Turkish suggests that to date the resources to create autonomous PLEs have not been developed. The importance of PLEs, technology resources, and a more humane way of conceiving and using technological applications—coupled with an emphasis on pedagogy for autonomy—may lead to drastic revisions of the programs of foreign language departments. The role of language supervisors may have to change.

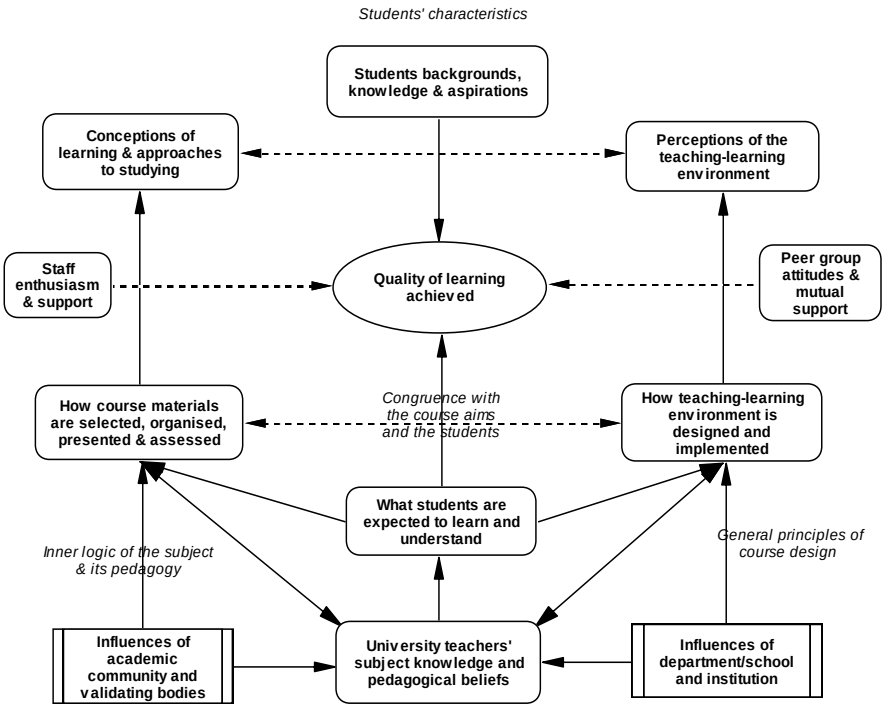
Our hypothesis that PLEs can enhance deep learning is supported by evidence (Tochon, Ökten, Karaman, and Druc, 2012). While it does not illustrate the role autonomy plays in increasing the effectiveness of the learning dynamics, Figure 1 (Entwistle, 2008) presents the conditions for deep learning to occur: It depends upon the learner's and the teacher's characteristics, yet the quality and depth of learning is determined by the congruence among the course aims and the students' aspirations, the peer group and mutual support, and the approach to studying for which the selection, organization, presentation, and assessment of the course materials are crucial.

We worked to create the conditions for such a congruence by gathering the resources detailed below that constitute the DATTL website. Because the resources and environment can be adapted to the learner's needs, instruction is provided in a different mode. "Designing a PLE demands both Information and Communication Technology skills and an awareness of one's own learning methods" (Valtonen et al., 2012, p. 732). Teachers often ask their

students to do a web quest, which requires adapting the linguistic environment and possibly interacting with native speakers on social networks; but teachers need to be trained for that purpose (Karaman, Ökten, and Tochon, 2012). Projects also need to be well scaffolded with open guidelines that can be shared (Brito & Baía, 2007). "A PLE can be entirely controlled or adapted by a student according to his or her formal and informal learning needs, however not all students possess the knowledge management and the self-regulatory skills to effectively use social media in order to customize a PLE to provide the learning experience they desire" (Dabbagh & Kitsantas, 2012, p. 7). Therefore, one role of the instructor is to propose strategies of interaction between peers or among students that help assimilate the principles that underlie the use of the various authentic resources and instruments proposed. However, teachers must know the resources well, and have a clear overview of the modules available to help students scaffold their PLEs.

The purpose of the online materials was to provide an environment to help students create their projects and reach a deeper level of learning that Tochon (2010) named "deep apprenticeship." Apprenticeship is understood here as the creation of entirely new knowledge not produced by the teacher.

Figure 1. *Characteristics of teachers and teaching learning environment*



Note: From Entwistle 2008, p. 25, reproduced with authorization of the author

PLEs stimulate autonomous apprenticeship for learners (Godwin-Jones, 2011). They can offer authentic, collaborative challenges over which learners have control and create environments of meaningful second language use. Students then have choice, decision-making authority, and voice. However, such quality learning environments exist for very few languages.

Among the many conceptions of learning, deep learning emphasizes action, quality, relevance, and purposefulness rather than rote learning. Learning a new language is understood as a process of cultural accommodation and abstraction, which connects to a

variety of subtle meanings and situational elements that need to be related to catch the whole. Such an intrinsically motivating and active learning environment supports deep reinterpretations of reality as being partly shaped by cultural complexes present in the e-learning environment. When projects target interpersonal and social situations in the other language, situated modeling, scaffolding, collaboration, and coaching stimulate various forms of socialization that enhance knowledge, skills, and experiences (Collins, Duguid, & Brown, 1989; Ding, 2008); it becomes a form of apprenticeship. For many instructors, organizing autonomous apprenticeship around PLEs represents a paradigmatic shift. Contacts with colleagues are crucial to resolve issues that may emerge. In-service instructors are encouraged to share experiences in the form of video study groups (Tochon, 1999; 2007).

To sum up, the context of the study is circumscribed by the organization of blended language courses supported by new online resources that provide opportunities for higher education students to create their own projects in thematically-oriented PLEs. The online DATTL instructional materials are complex and flexible enough that students can build their PLEs to create their own projects as individuals, among peers or as a team. During the first lessons of the semester, students are shown how to use the instructional materials creatively and make it their own. They can pick the thematic template of an online PDF file with the associated video movies, multimedia and PowerPoints, explore the proposed digital texts and Internet links and adapt the template and online contacts to a specific project of their own.

3. Research Methods

The research questions that oriented our study are as follows:

1. What are the conditions needed for self-determined language learning to occur, raising awareness of ways in which digital personal learning environments can be used in tandem with more formal learning strategies? How can such technologies and open resources can support self-directed learning in less-commonly-taught languages?

2. What are the language teachers' perceptions of the integration of authentic Internet-based PLEs and the impact of personalized learning in developing deeper levels of language apprenticeship?

3. What difference does the integration of such e-learning environments make for the course instructor in terms of usefulness and best practice? Can new technologies be organized to support deep learning in one of the less-commonly-taught languages?

4. What are the issues raised in practice by the attempt at developing pedagogy for autonomy, and what are teacher perceptions related to students' use of authentic Internet-based PLEs in Turkish language and culture courses?

5. Did such e-learning environment change the instructors' perceptions about language learning, and how did teachers develop professionally in their use of such environments?

6. What are the needed reforms of teacher education considering this experience?

3.1 Context of the Study: Turkish Learning Technologies

Since 2002, the United States Department of State has invited graduate-level assistants to teach Turkish at the college level through Fulbright programs. These programs have not, however, invested in the development of technology-enhanced curricula or instructional materials. Nonetheless, a number of online resources are available for Turkish language instructors. They vary from university language programs to programs created by Turkish

individuals or businesses. For example, the Turkish Tutor, developed by the University of California at Los Angeles (UCLA) Center for Near Eastern Studies, uses a television show called *Bizimkiler* to teach Turkish. Exercises offered by the University of Minnesota[1] provide vocabulary. The University of Arizona Critical Languages Program offers a Beginning Turkish CD-ROM (Türel, 2002), but it is in need of technological updates. Moreover, the material, while excellent, cannot easily be used for project-based learning (Boss & Krauss, 2007); it focuses on listening comprehension. A Turkish instructional DVD-ROM created at Texas Tech University focuses on multiple choice and drills. IPods and videos are often used in Turkish classes to watch and listen to authentic materials, with vocabulary translations (Belanger, 2005); such work is typically not integrated into a coherent instructional program. Rosetta Stone, Transparent Language, and Linguata—and even Oxford University's Turkish Studies[2] and part of the current UCLA Business Online Language and Culture Application materials[3]—rarely present vocabulary in context or are, in the main, limited to listening comprehension. Such approaches may serve the needs of beginners. Learning Turkish Online by the University of Oregon Yamada Language Center is well organized, offers effective assessment tools, and provides instruction for beginners. Nonetheless, the learning approach is more passive than interactive. The strengths of the Turkish Certificate Program, a distance education environment developed at Anadolu University in Turkey (Pilanci, Bozkurt, Zenci, Soker, and Girisen, 2010), lie in its use of synchronous interaction and the opportunity it provides for feedback via webcam, microphone, or whiteboards (Girisen et al., 2010). Efforts directed towards developing these and other online materials for Turkish are continuing, yet funding in these areas is particularly scarce.

3.2 Context of Study: Online Resources Created and Way of Using Them

As demonstrated in section 3.1, existing online resources for Turkish language instruction, while providing some interactive exercises and limited authentic linguistic contexts, often lack the kind of fully interactive approach that facilitates mediation of learners' language construction. Thus, the field is open to innovation, and online PLEs could address the current needs in teaching and learning Turkish. Our study addressed these needs with the purpose of supporting the creation and research of PLEs for self-regulated projects at the intermediate and advanced levels. The resources we gathered can strengthen, expand, and improve language instructional programs where Turkish is taught as a world language by providing online materials with which learners can create their own PLEs. These resources include:

- *An open choice of digital movies*. Videos with Turkish or English subtitles for various types of autonomous work. A total of 135 interviews were videotaped around Turkey in which people of all ages and professions narrate aspects of their biographies. The Ministry of Culture and Tourism of Turkey provided a large number of films to use to contextualize language learning.

- *A thematic list of PDFs with cards for self-determined learning and templates supporting the creation of autonomous educative projects*. PDF modules describe pedagogical uses of video for each thematic unit, aligned with the American Association of Teachers of Turkic Languages' language learning framework. Possible projects are scaffolded for students to choose and develop topics of their

[1] http://www.carla.umn.edu/lctl/materials/turkish/tvtp.html

[2] http://turkishonline.orient.ox.ac.uk/about/

[3] http://bolca.international.ucla.edu/Browser.aspx

own interest. The templates serve as models for any other themes or topic-oriented projects.

- *Digital texts supporting reading, writing, and oral exchange*. We proposed texts and writing practices that fit within the thematic units and accompany the video movies.

- *Scaffolds and advanced organizers*. Preparatory materials such as glossary, grammar scaffolds, partial transcriptions, summaries accompany videos, readings, writing practice, and projects.

- *Smooth integration of new technologies*. We provided online support for projects associated with the thematic units, with courseware links, online practices, annotated videos and streaming video clips, with optional connections to interactive sites such as the online language community "Livemocha," blogs, and course websites.

These interconnected resources constitute the online materials DATTL, which offers multiple and multilayered ways of indexing learning information:

a) a site map with an ordered list of content titles on which the student can click for quick access;

b) thematic lists of modules for intermediate and advanced levels;

c) list of grammar storytelling videos connected to modules;

d) list of materials (videos, films, annotated multimedia, PDF module templates, PowerPoints, grammar videos) for each thematic module; and,

e) Internet links within PDF modules, lists and structures of possible projects, and lists of relevant Internet sites, applications, and appendices for further exploration.

The research team proposed a list of thematic modules. Suggested guidelines and templates for projects are associated with each of these modules, in addition to resources for individual or paired students or teams to create language and culture projects, films, annotated interview videos on the themes being explored, or PowerPoints. We also provided recommended web links for furthering new projects.

The innovative aspects of this self-regulated learning package are: (1) the use of online thematic templates as a basis for autonomous project development, (2) its compatibility with formal education contexts, and (3) the link between reflective and collaborative curriculum design for learner autonomy and the use of multimedia technology, online environments, and modular resources thematically dispatched in an open environment.

Learners are invited to pick a theme and the corresponding module, or they may decide to choose a theme not on the list we provided, and instead create their project on the basis of the examples provided in the templates to obtain a balanced language activity in which all skills are developed. They first must create or adapt a rubric specifying the tasks involved in the project for each task domain or skill. This will serve as an instructional agreement used for self-, peer-, and instructor evaluation. After doing so, they can work as they please, using their own creativity.

3.3 Context of the Study: Participating Turkish Instructors

We provided the language instructors participating in this study with onsite training varying between 1 full day and 2 weeks, depending on their availability. In addition, we

provided Skype support and a forum website on which we posted regular information in response to questions raised by instructors. Instructors then worked with 6–12 students, depending on the program. The online material had been accessible for 2 years and thus the instructors had had the time to explore the modules created by our design research team with various groups of students, and could ask the researchers questions whenever needed, whether by Skype, the forum, a Facebook group, or telephone. On-campus visits by the principal investigator were organized as well.

Basically the instructors tried to find a midway path: between the guidelines that were provided on ways to scaffold self-regulated projects with their students and the constraints of their programs enforced by college language supervisors, such as imposed drills every other week, intermediate examinations, a grammar schedule, and use of imposed final examinations. They were rather successful at that and could maintain two seemingly contradictory requirements by devoting 1 or 2 hours a week for the program requirements and the rest to the Deep Approach with its open projects. This means that some instructors were led to use the new materials in a traditional, controlled fashion for part of their schedule to meet the demands of their program supervisors. In one case, the researchers negotiated the process with the language program supervisor, who admitted she believed strongly in the Deep Approach for well-trained teachers but did not trust the specific instructor to be able to maintain program effectiveness with an open and student-determined approach. The challenge was for the instructor to become a facilitator rather than a purveyor of knowledge. The turn toward favoring deep learning was not an easy one for language instructors who sometimes felt compelled to teach grammar rather than helping students express themselves in an online environment.

3.4 Study Description

As part of a large study involving psychometric measures of deep learning and intercultural learning, as well as oral proficiency growth, we analyzed the instructional experiences of instructors of intermediate or advanced Turkish at four universities in the United States (N=8) for 2 or 3 years, depending on the instructors. Three participants volunteered to continue to communicate with the team of developers after the completion of the experimental design. The participants for the present longitudinal study were six female and two male Turkish instructors experimenting with the new approach. The instructors were all native speakers. Most participants had minimal teacher training but were motivated to do professional development workshops. Ongoing evaluation involved exploratory practice (Allwright, 2005). The instructors described their experiences with the Deep Approach, the PLEs and online resources, and conducted ongoing qualitative evaluations.

3.5 Data Collection and Interview Protocol

Data collection was ongoing and quasi-ethnographic (Goetz & LeCompte, 1984). The researchers had regular contacts with the instructors over the course of 2 or 3 years. At each site, instructors who used the new online materials and PLEs produced a brief report evaluating their experiences and were interviewed four to six times by Skype or face to face for 30-60 minutes each time. Summary reports were produced. Participants were interviewed on specific technology issues; other interviews dealt with various related concerns. There were also follow up interviews, and, in some cases, classroom observations over the course of one semester. The interviews focused on professional background, descriptions of teachers' and learners' needs and interests, experiences of instructors while employing the learning modules, and teachers' views on the shifts in classroom practices, such as those related to course materials, the online environment, and skills learning. In addition, there was correspondence by email. We also visited and invited those instructors that expressed the

greatest interest in the project. Some presented their experiences in a symposium and colloquium that we organized. We focused on questions such as:

1. What in your experience distinguishes the Deep Approach technology materials from other multimedia and video materials you have experience with? Did the Deep Approach stimulate self-directed learning?

2. Did you notice particular instances when some of your students learned Turkish better thanks to the DATTL website or particular technology materials within the website?

3. What technologies seemed most useful to learners of Turkish? Did these help personalize learning? Can you give an example or report an anecdote?

4. How did your students use the online materials, and in what way did it help them create their PLE for learning Turkish? Do you have specific examples or events to report on this aspect?

3.6 Data Analysis

A conceptual analysis is first employed on the key elements of these interviews, in the form of a map established through constant comparisons. Then, the procedures of grounded theory are applied (Glaser & Strauss, 1967): these key elements "are taken as, or analyzed as, potential indicators of phenomena, which are thereby given conceptual labels". Then categories "are generated through the same analytic process of making comparisons to highlight similarities and differences that is used to produce lower level concepts" (Corbin & Strauss, 1990, p. 7). We also used a form of narrative synthesis for one longitudinal case, the narrative helping link the dots of teacher development over the years of our study. The excerpts from the interviews have been edited by the research team to create finished products that are syntactically correct and not like spoken responses to interviews. The data were used to explore our research questions and evaluate the impacts and usefulness of the new learning environment and approach on language learning as perceived by the teacher.

4. Qualitative results

This section reviews the answers to the technology questions in our survey of instructors using the new online materials. The following themes were extracted from data:

- stages of teacher development in the growth toward pedagogy for autonomy;
- language improvement thanks to learner autonomy;
- usefulness of PLEs in dealing with complex learning and letting students set their own pace and bar; and,
- depth and agency in language and culture learning (as perceived by teachers).

Resources for instructors of Turkish are scarce. Most teachers were happy to learn that our team would research-design new materials for them. At first, they were interested in the resources, not the study or the approach, which they found too theoretical. What follows are excerpts from interviews with and reports from the instructors. The first excerpt refers to the general context of use of resource modules associated with thematic multimedia and various suggested digital resources that help the student or the team of students in organizing their own PLE. It indicates how much difficulty instructors may have in adopting a logic in which students are self-regulated.

> Given the fact that Turkish—as a less-commonly-taught-language—lacks the wealth of resources that many other languages enjoy, in many cases currently

> available Turkish teaching sources tend to fall behind the contemporary methods of language teaching that are available for more commonly taught languages. Despite that, over the course of my teaching experience, there have been many instances when I have incorporated multimedia materials from university-based resources in the United States. These resources I explored served as supplemental materials to my regular lesson plans, which included a variety of authentic and non-authentic elements. In contrast to these sources of instructional materials, the Deep Approach modules provided a framework that could be employed to minimize the long hours spent trying to compose relevant content.… Aside from my willingness to use the modules … getting familiar with the philosophy behind the modules was crucial to making better use of the modules in class. It was not until then that I thought I could have my students be the "policy makers" of their own learning without feeling that my authority was being threatened.… It turns out that what Deep Approach modules had to offer was not about simulating power struggles in class. Instead, they were about a paradigm shift, which was helping [me and my students] become effective and proficient agents of the language.

4.1. Stages of Teacher Development in the Growth toward Pedagogy for Autonomy

The excerpt above describes an evolution in the instructors thinking through three stages. The development stages of teachers are based on our findings:

Stage 1: The instructors tend to only perceive that they are offered a mine of thematic resources to support their teaching; however, the research team bothers them with a new theoretical approach that they do not feel immediately relevant, as they believe it is possible to simply use the instructional material as they normally would and not listen to the theory. While the teachers in our study evaluated the new environment positively, we noted that such innovation seemed to infringe on conventional teacher routines and programmatic regulations.

Stage 2: They start noticing how much interest the online material stimulates among many students who continue using it at home for autonomous projects. Instructors start thinking there might be some basis for the advice provided towards deep learning, and pay more attention to the theoretical information. Yet, curriculum autonomy for the learner is in many contexts quite inconceivable, and instructors are themselves in a field of constraints and evaluations. Thus a sense of crisis emerges from this new understanding: how far will they dare to go in the approach?

Stage 3: From a stage where the instructor is using the modules to a stage where the learners choose the modules in which they want to work, there is a gap that comes from a sense of empowerment among instructors who had enough in-depth, reflective teacher education to feel that they can be allowed to emancipate themselves from some of the institutional constraints. This empowerment comes at the time they understand that the theory is about their own life as a professional as well as the lives of their students: the transdisciplinary perspective takes over the disciplinary narrowness and they start reflecting on their role as social agents.

4.1.1. Narrative analysis of one case

Here is the story of Seval, Turkish instructor in one of the study sites. Seval's case is special because she is an instructor we had the opportunity to follow for 3 years. Seval was new to Turkish teaching and had taught another language in the past. She was provided a Teacher Assistantship while starting her Master's degree. While she was discursively prone to a communicative approach, her pedagogical practice was highly directive during her first

year of teaching at the intermediate level. She liked having a wealth of resources available on the Internet and liked using videos on YouTube, but she was clearly the curriculum builder and her students were given a framed and directed autonomy to act her way when doing tasks and activities she chose for them. While some of her classroom practices supported some form of self-regulation and peer work, in the main, self-determination was not an option. This illustrates a clear Stage 1 in which Internet resources were selected by the teacher and used in a traditional way; teaching was teacher-centered.

Seval took a professional development workshop and, during her second year of teaching, she started providing more freedom to students to create their own projects and choose among a variety of resources for homework. She was still under the close supervision of her language coordinator who would impose regular drills and determine the contents of intermediate and final examinations, but she had been able to negotiate some freedom for herself, which could be passed on to some degree of freedom for her students. She now more than before understood there was much sense in the theoretical framework for deep language learning, but she was undecided as to how she could direct group autonomy and keep control of progress, pacing, and contents. She met the Stage 2 crisis, during which there was much frustration perceiving her own lack of autonomy to innovate the way she liked and posit her students, even for temporary experiences, as curriculum builders. Negotiation of the research team with the coordinator, at some point, led to some understanding that the rigidity of coordination was related to a lack of trust in the ability of the young teacher to handle her students' autonomy with efficacy. Having students autonomously develop personalized approaches as homework was perceived as appropriate, but the online resources were not considered a choice that could replace classroom attendance according to departmental rules, as some grammar points might not be developed, and they needed to be practiced in ordered sequence by the whole class.

During the summer Seval was able to review the online modules and related materials. She read more about the theory underlying the Deep Approach. She felt she could be freer in future from the constraints imposed by the program and her language coordinator. Her student evaluations had been very good, so she gained some confidence that she could emancipate herself from the imposed program as long as students had excellent results and increased their proficiency level. She might even be able to renegotiate the intersession examination in terms of a project evaluation rubric or alternative form of assessment. Thus the third year started with a more relaxed feeling, moving toward a post-communicative framework in which getting in touch with life and the world at large appeared more important than the sequential application of the program. Seval asked students to choose a module of their own and create a project, devoting 2 hours per week to deeper learning, which illustrates that she had moved to Stage 3.

More excerpts from our study serve as examples of professional development stages in the Deep Approach. The first excerpt demonstrates a Stage 1 reflection:

> The materials provided for each module were thematic. They let the instructor prepare for the class with less effort since everything that should be done in the class was planned beforehand.

In this Stage 2 excerpt, the instructor is ready to allow learners to explore the culture independently:

> First of all, Deep Approach technology materials are based on Turkish culture. It gives learners the background knowledge of the topic and linguistic content of the text. Vocabulary is also taught within context. Preparing other multimedia and video

> materials for teaching a specific subject is quite time-consuming for many teachers. However, the Deep Approach [website] offers PowerPoints, projects and some other movie clips that make learners more aware of the target culture. As a teacher, I attach great importance on listening materials and I want my students to be exposed to the language as much as possible. A wide exposure to language is the best way of ensuring that students will learn it eventually. By the help of Deep Approach materials, learners have a chance to learn through practical applications of what they have learned.

The following excerpt suggests an advanced Stage 2, in which the instructor acknowledges the need for the students to feel personally in charge of their learning:

> What my students and I most liked about the Deep Approach modules was the variety of multimedia resources. Not only were there interviews with native speakers, clips from Turkish advertisements, TV shows, or popular movies, [but] there were also more technical tools, such as grammar storytelling videos, simulated conversations and improvisations. As seen from the students in class, the profile of today's language learner has been changed. With their strong interest in social media and technological tools, it is clear that anything that lacks a personal dimension and a captivating stimulation would not be enough to strike students' interest. Therefore, having a variety of multimedia options for my students was very helpful in raising their curiosity.… In addition to the variety of multimedia resources in the DATTL modules, my students received the sense of authenticity in the videos very well. In this regard, what differentiates the Deep Approach multimedia and video materials from others is that the information is authentic. Most of the information retrieved from native speakers is not from prepared and rehearsed texts; instead, they are natural and impromptu in the manner of everyday conversation. It was the structure that kept the data organized when using the modules, yet it was the casual feeling that the videos had which kept my students' attention alive. Additionally, this casual feeling suggested a sense of expecting the unexpected, as the interviewee profile ranged from children to older people, from people of rural to urban parts of Turkey, and from restaurant waiters to university students.

As we have seen in Seval's case, the same instructor may experience different stages over time. The following vignette signals a well-established Stage 3 instructor:

> Having a clearly organized set of materials in each module … made it easier for students to perform effective self-study methods on their own.… [T]he coherence in modules resulted in personalized learning, which in turn unveiled the fluid nature of mastering a second language. I believe that if I were to use the same modules with the same techniques with different groups of students with varying ages and levels of proficiency, each group would have a unique experience.… My students and I had an exceptionally good experience with the modules. There is no doubt that the modules were a boost to my Turkish classes throughout the time I used them. It is evident in the projects produced by my students that the modules provided us with new ideas as well as a convenient hub for materials. Since it has many different themes and modules with several videos, DATTL gives a lot of choices to the students.

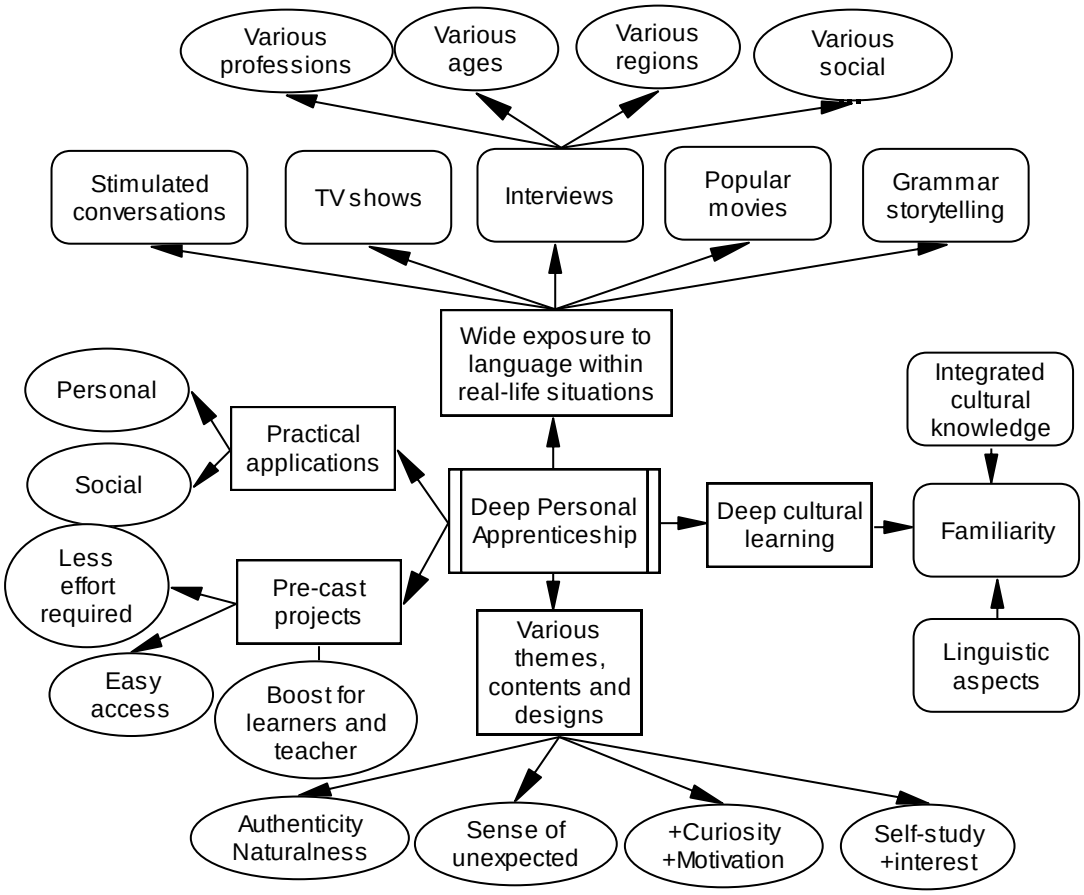
Higher education instructors usually receive no initial teacher education but sometimes a brief 2-day microteaching workshop before the semester starts, and possibly a one- or two-credits sharing of experience with some teaching methods. The preferred Teaching Assistants among language coordinators are often certified K–12 teachers who just entered graduate studies, as they already have education training and classroom experience. Those will very

rarely be Turkish teachers. For all others, who represent the large majority of the instructors teaching languages in U.S. universities, some form of training is necessary. This training is often provided in the form of annual workshops given by organizations such as the American Council on the Teaching of Foreign Languages or STARTALK, and the teacher who attends must bear the cost. That shows exceptional motivation on the part of teachers who attend professional development.

Figure 2 presents a conceptual analysis of the reasons for the efficacy of the proposed online environments. The panorama of resources learners invested in their projects explains how their experience deepened into a form of immersive apprenticeship. Thus the online resources, according to all the instructors, effectively stimulated a deeper and more personal apprenticeship.

A common theme that emerged in the responses of instructors regarding the quality of learning experiences with the use of the new learning environment related to the variety of content and design. All instructors considered the availability of diverse online materials as a key factor sustaining student interest. Furthermore, as the teachers noted, the embedment of real life situations illustrated in TV shows, interviews in rural and urban settings, life stories, and documentaries facilitated the students' reflection on Turkish culture. Several participants discussed how easy access to the modules online contributed to a better instructional experience. Because resources were presented within a clearly organized learning procedure, the teachers were able to devote more time to observing, tracking, and facilitating student interaction rather than spending most of their time on lesson planning and assessment. According to the instructors, students were able to employ effective self-study processes after their classes.

Figure 2. *Deep personal apprenticeship*



4.2. Language Improvement Thanks to Learner Autonomy

As language instructors in our study worked with the new approach, they offered various appraisals of the proposed materials. Of these, several related to visions of effective material development. For example, instructors expressed a preference for different ways of organizing the modules. The concept of PLEs encourages the teacher towards a pedagogy of self-determined learning, yet several of the teachers we interviewed initially refused to use the open-ended instructional designs presented in the self-directed learning modules. They had difficulty giving their students the necessary autonomy. However when the class takes control of instruction, the instructor is often amazed with the achievements in Turkish learning: students do homework they were not assigned, form their own reading club outside of class, and create their own Turkish movies. For some instructors, it was an astonishing experience. Students are intrigued by what they discover in authentic videos, want to learn more, and start exploring on their own … if they are not kept busy with vocabulary drills. They learn about culture, start reading the Turkish news or watching Turkish TV. They create projects their instructor would not have thought of. However, this only happens when learners are given freedom. The instructor must learn to go with the tide rather than against it. When learning takes off in this manner, instructors realize that the thematic resources are a pretext, a threshold, and that the Deep Approach is not about instructional material—it is all about the learners being in charge of their own learning.

Students received a lot of input about multiple resources—what to listen to, read, and watch. Their task was then to focus on their own output in the autonomous production of personal projects. With all the input they received from the videos in relation to their personal interests, talents, and efforts, their confidence manifested itself in fluency in the Turkish language. Immersion in the Turkish culture through the modules, as well as getting meaningful input, allowed the students to achieve higher levels of proficiency. The teachers could see the results in their students' autonomous projects:

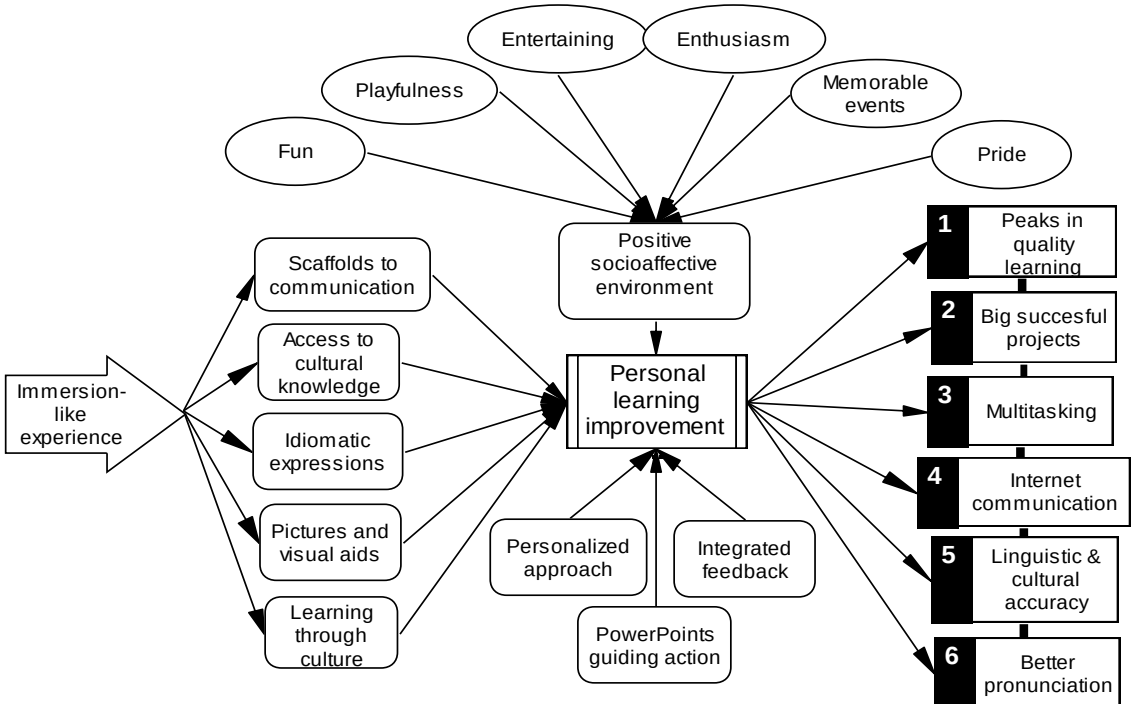
> My students had an immersion-like experience in and outside of the classroom.… Experiments with the modules led us to bigger projects.

> The quality of learning peaked in my class because my students were so enthusiastic about their project that it seemed like it was the most important project they had ever done in their lives. They were multitasking, communicating, surfing the Internet to gather data, looking up words online, checking their Facebook pages to find photos, going onto YouTube to find the best moments of their favorite football teams, and having a great time in class. At the end of their project, they were proud to have their classmates and I watch the video. Being their instructor, I was proud of them for being able to put together such an amazing video. Furthermore, I would argue that sometimes those interviews stimulated linguistic and cultural accuracy.

> Although my students were doing these projects independently, I spared them some class time every other day to work on their projects in class so that they could come and seek my help if they needed it. At some point, I noticed that [they] were not interested in getting my help on their text. When I asked them if they needed my help, they said that they did not want me to see the text as it was going to be a surprise for me. It was such a pleasure for me to see my students feel so attached to their work and at the same time be so playful with it. To my surprise, I found out that there were many other jokes in the video that made great references to some of the most memorable events we had in class. Overall, [they] developed a coherent and an elaborate project, which was quite entertaining and informative.

Figure 3 presents a conceptual reorganization suggesting that PLEs create a positive socio-affective environment—fun, playful, and entertaining—that makes learning memorable and students both enthusiastic and proud. PLEs are noteworthy in the way learners take charge and personalize their learning, give feedback to each other, create successful projects with peaks in quality learning. As reported by instructors, this immersion-like experience improves linguistic accuracy, pronunciation, vocabulary retention, cultural knowledge; and helps scaffold communication.

Figure 3. *Personal learning improvements through a deep approach*



The instructors' experiences drew attention to the promotion of student creativity and intrinsic motivation in relation to projects in PLE modules. Participants' observations documented how learning was enhanced by the engagement of students' multiliteracies. Some instructors likened students' ongoing project work to immersion experiences. Even if the students were not in a speech community in the traditional sense, by employing multiliteracies, they were able to read, view, and research online and communicate various perspectives in the target language.

To sum up, from their experiences in courses that gather various kinds of formative and summative assessments, proficiency measures and interviews, conversation tables and drills, the instructors noted peaks in quality learning in the achievement of big, successful projects that could not have been achieved with their usual approach. Students were multitasking and developing multiliteracies through the Internet. Thanks to the Turkish PLE and associated resources, they developed better pronunciation and increased linguistic and cultural accuracy.

4.3 Usefulness of PLEs in Dealing with Complex Learning and Letting Students Set their Own Pace and Bar

PLEs for language learning is a new field to explore. PLEs cannot be distinguished from a fascination for their content, which has the discovery of the other culture as its objective. If students sincerely liked certain topics, modules, and associated resources, it was because they were able, in the material proposed, in all its complexity, to locate their zone of proximal development (ZPD). Vygotsky (1978) defined the ZPD as "the distance between the actual

developmental levels as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (p. 86). The ZPD is important, as personal learning can be increased through forms of collaboration with their peers and the teacher. Lantolf and Thorne (2006) mention that feedback on the learner's performance is crucial in defining the ZPD, in that the help is internalized and the responsibility for learning gradually shifts to the learner. This is what happens with the use of PLEs.

Nonetheless, the relativity of the ZPD must be discussed here. Vygotsky (1978) and Krashen (1985), in the field of second language acquisition, suggest that the teacher could decide what the ZPD is for each student. Research on teacher cognitive planning indicates that this is an impossible task (Tochon, 2002). The Deep Approach broadly sets up learning conditions for proficiency thresholds (such as intermediate or advanced) for learners to choose their ZPD level within a threshold (low, mid, or high) from a wealth of resources. Students learn how to process complexity. Therefore, the instructional resources we developed come with different difficulty thresholds; within each threshold, the amount of scaffolding is varied (such as text summaries, video transcriptions, glossaries, or content discussion), which makes all use of scaffolding eminently the student's choice. It was not that the teacher or the resources themselves had measured precise scaffolds; rather it was the multiplicity of scaffolds offered with the material (summaries in one language or the other; transcriptions; structural questions; culture tips; grammar clues) that led students to choose their learning path within this complexity and determine the best and most realistic avenues for their projects. Sometimes they transcended their own ZPD and leaped to new levels of proficiency, through a sudden reorganizing of their passive knowledge into a focused action supported by their peers. In addition, as noted by Tochon & Lee (2010), the growth of intercultural learning indicates the presence of a zone of proximal *identity* development (ZPID), in which cultural contents are negotiated. The ZPID influences the development of intercultural learning during Internet-mediated multimodal videoconferencing, for example (Tochon & Lee, 2010). To sum up, PLEs are interesting environments that allow learners to discover their ZPD and ZPID on their own.

4.3.1. Examples of Comments Instructors Received On One Module

For various reasons, students enjoyed the intermediate level module entitled "Love and Family/Aşk ve Aile." Students reported that the multimedia was very helpful in allowing them to access the transcripts of the interviews. After accessing the module online, they explored it on their own. While they found the interviews interesting, they had to keep up with the rate of the speech, which was not easy given their level of proficiency. Therefore, the transcriptions of these videos served as scaffolds and allowed a better understanding:

> Watching the [multimedia] entailed a great classroom discussion about what my students liked most about the Turkish culture. This was another event in my class when the mere language practice was not the focus of the activity. After all, my students naturally came up with their own way to tap into their own language development.
>
> The module was loaded with videos for listening and comprehension that students felt were very useful. The more the students were immersed into listening and reading, the better their proficiency was getting. Moreover, since it is a challenge for instructors to find relevant and appropriate videos in order to show students the people of various socio-economic backgrounds in Turkey, these resources were much appreciated by both instructors and students.

> This module was very helpful … as it included a number of videos ranging from interviews with single and married people, an interview with a shopkeeper who sells trousseaux, and several clips from a popular Turkish movie *Babam ve Oğlum*. If nothing else, these videos provided my students with a great exposure to the language with varying regional accents and points of view. For example, while watching one of the clips with my students, one student said that she felt good for being able to recognize the accents in the movie. It was not only the accents but also the types of behavior displayed in the videos.

Figure 4 presents a conceptual analysis of the relevant theme across participants. The environments proposed were perceived as useful inasmuch they led to student engagement; could be attractive enough that learners would feel like adding to the suggestions something of their own that corresponded to their life interests; stimulated contacts with native speakers in whatever form it was, such as video, Skype, or social networks; gave a sense that this exploration was self-sufficient; and allowed self-and peer-talk and self-tests rather than extrinsic assessments.

To sum up, the instructors underscored the value of transcriptions available in multimedia for self-directed learning, variety, and how the PLE module structures address the challenge of finding relevant thematic and content-based materials for a less-commonly-taught language. When discussing the ways PLEs improved learners' experience in Turkish language courses, participants frequently referred to increased interest and satisfaction due to the thematic organization of modules that helped them create their own projects. Several instructors explained how various themes connected to life in society promoted the exploration of culture. This was also closely related to the cultural potentialities offered by the wide array of videos with speakers from different sociolinguistic backgrounds.

4.4. Depth and Agency in Language and Culture Learning

In the final phase of analysis, the previous conceptual maps were reframed in higher-level categories that defined how language instructors perceived PLE use for deep language learning, following the grounded theory process (Corbin & Strauss, 1990), which leads to the reframing of the understanding into broader categories of meaning. Culture and agency have a key role in this reframing. We earlier defined agency as the capacity for self-determination and decision making, and the ability to take responsibility for actions in reference to Van Lier (2010). Agency is what supports students' autonomous quest for meaning when they read or watch life events and stories captured in the form of films, videos, and interviews associated with their thematic learning environments. It is agency that helps them discriminate among competing meanings and build up their own interpretation of what is profound or not in certain mediated cultural events. Shaules (2007, p. 39) characterized cultures as "frameworks of shared meaning that allow for interaction and relationship building." The search for a deep underlying structure of any culture meets challenges considering the number of aspects and dimensions that needs to be included. In addition, the study of cross-cultural semantics (Wierzbicka, 1999) may be misleading in articulating generalizations that do not take into account the variation of cultural behaviors and contexts. Therefore, the option that was adopted in this work was to provide, rather than molar units of a supposed common structure, a broad variety of cultural situations in various modes such as filmic, audiovisual, regional, literary, aesthetic, etc. to which students could be exposed.

Figure 4. *Usefulness of personal environments*

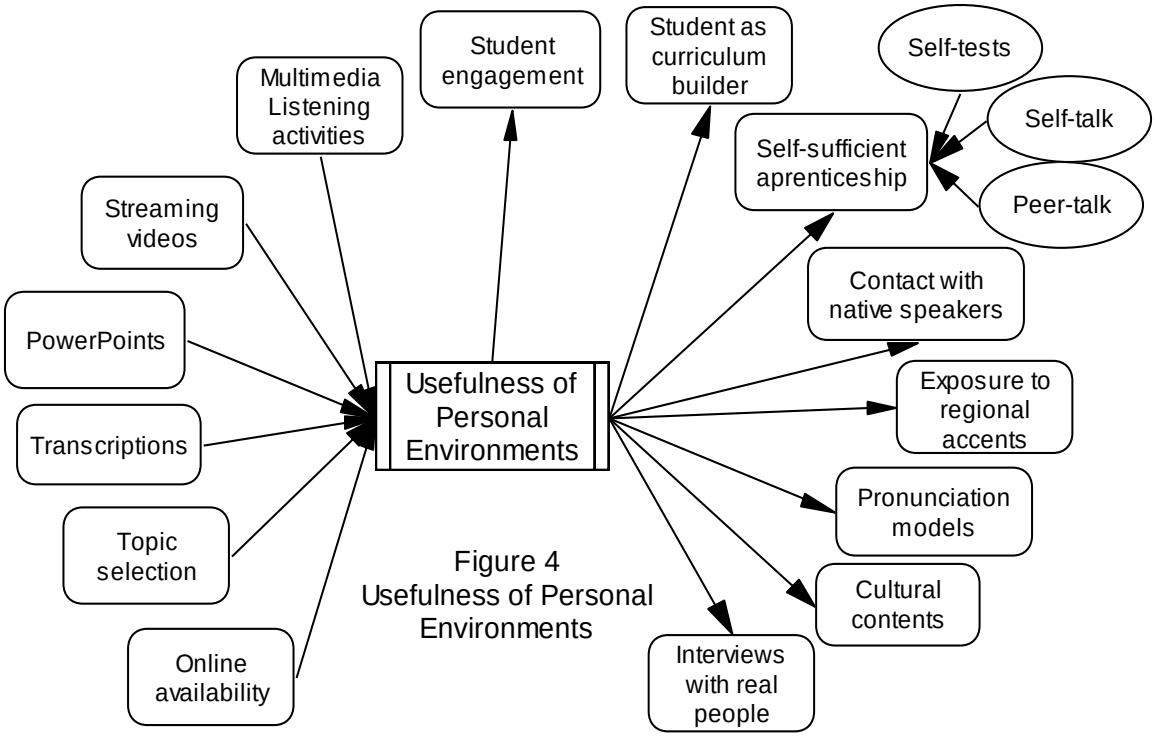
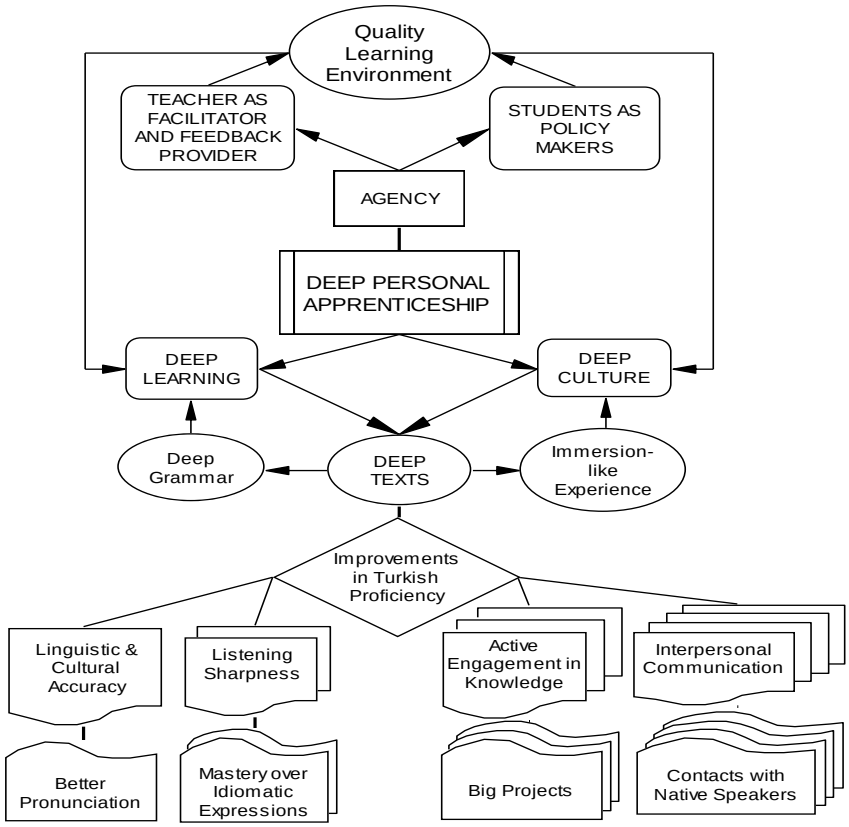


Figure 5 presents the grounded theory of deep language learning within a personalized environment. What emerges from the verbal protocols of the Turkish teachers is a notion that is diaphanous in their interviews and surveys, the notion of learning a cultural "deep text." What excited and enthused their students was their sudden ability, thanks to the environment, to "read" into the well-scaffolded video multimedia and accompanying resources a deep cultural text, a deeper meaning that would not have been accessible had they not been able to explore the semiotics of the target culture through the constellation of resources that the various tools thematically-gathered had represented.

In Section 2 (Theoretical Background) of the paper, we defined apprenticeship as the creation of entirely new knowledge, knowledge that was not produced by the teacher. In our study, through this new access to deep texts (at the center of Figure 5), deep personal apprenticeship became possible. Deep learning merged with deep culture through agency, provided that the teacher agreed to be a facilitator, allowing students to become policy makers. That process defined a quality-learning environment, which led to improvements in Turkish proficiency, the details of which are enunciated at the bottom of Figure 5.

Figure 5. *Theory grounding deep language apprenticeship*



To sum up, the concept map in Figure 5 proposes a conceptual reorganizing, and suggests that PLEs create a positive dynamic between deep learning, deep culture, and agency. The dynamic is provided by the online resources as forms given to multiliteracies in an immersion-like experience. Improvements in Turkish proficiency seemed to derive from these deep texts—aural, visual, and written discourses—embedded in the proposed pedagogy, which transcend language forms and transform learning into an active engagement through students' large projects that involve interpersonal communication and contacts with native speakers.

5. Concluding remarks

"Very little of the existing literature on materials development tells us much about the actual effect of different types of materials on language acquisition" (Tomlinson, 2012, p. 170). The present study fills a gap, in this respect.

5.1. Instructors' Reports

The data showed a link between the use of a PLE and student language performance in Turkish, as reported by their instructors, on various dimensions such as linguistic accuracy; better grasp of idiomatic expressions; improved listening and interpersonal communication; better pronunciation; active engagement in knowledge; ability to handle and realize big language projects; increased contacts with native speakers; and cultural accuracy.

The connection with higher levels of proficiency was noticeable for the Turkish instructors who used various forms of assessment in their programs, such as conversations, formative

and summative evaluations, individual and group comparisons across years, drills and examinations, and oral proficiency interviews. These results were confirmed through other means such as oral proficiency interviews and course evaluation questionnaires. PLEs are an important contribution to deep language learning, particularly in less-commonly-taught languages. They open up a world of resources in this field, in which textbooks are rare and often obsolete.

5.2. The Crucial Role of Teacher Training

Notwithstanding, an effort must be made to make sure teacher training is sufficient in terms of both resources and time allocated to professional development, otherwise programs may encounter the contradictions witnessed in other world language programs (Tochon, 2011). Teaching less-commonly-taught languages is problematic in many institutions due to the involvement of instructors who may sometimes lack the necessary skills to teach their language to foreign language students. The lack of teacher training could be compensated for with video study groups in which participants share their practice and reflect on future activities (Tochon, 2007; Tochon & Black, 2007). Indeed, video feedback has been shown to be an outstanding means of professional development.

The instructors' experiences revealed in our study attest to the value of personalized learning opportunities provided by diversified online content. For example, several instructors referred to an increase in their students' intrinsic motivation while navigating the videos and related projects within modules:

The challenging nature of the project work was also perceived as a factor that promoted students' self-directed learning. Overall, the incorporation of scaffolded multimedia content in modules for presenting authentic language uses in various contexts enabled students to have more interactive discussions and projects in the language classroom. Pedagogy took the lead, not technology. This defines "pedagogically appropriate technology integration" (Tochon & Black, 2007), with curriculum design principles such as analyzing the language learning situation and setting instructional processes before considering technological choices. For example, Colpaert (2006) offered criteria that any "appropriate" use of technology should include subordinating technology to prior pedagogical goals; open and bottom-up planning; the active role of users; the evolutionary adaptation of plans to users, their strategies, and styles; and the presence of users' integrated evaluations. These principles are enacted in a Deep Approach to languages and cultures. Nonetheless, any instructional material has its limitations.

5.3. Limitations of the Study

The language instructors in this study were mostly good-willed and interested in improving their teaching within the limits of what they were doing in their classroom; but half of them were not in the main interested in educational research, or did not really believe research might make any contribution to their profession. Data collection was a real challenge in this context. Furthermore, some instructors of less-commonly-taught languages do not have background training in pedagogy and Education as a field of study. These profile components, shared across some less-commonly-taught languages, make it particularly compelling to organize teacher training for innovative formats that place students as curriculum builders within PLEs. One limitation of the study is thus having had to work with some language instructors who simply could not give the necessary time for their basic training in the new approach, and whose frame of reference did not allow for the needed adaptation to the proposed format. Qualitative data analysis indicated that the situation was evolving, though, and teachers who started at Stage 1 would question their assumptions when

seeing the positive reactions of their students, and after a year or two with workshops and discussions, would move to Stage 3.

5.4 Overview of Responses to Research Questions

1. What are the conditions needed for self-determined language learning to occur?

We found these conditions to be an abundance of thematically interrelated resources in the field of study placed on various media, a flexible curriculum, and willingness on the part of the program stakeholders (department, coordinator, and teacher) to relinquish part of their control to the students for them to become curriculum builders. We suggest, however, that it is crucial that these language instructors go beyond the replication of pedagogies they are used to and be open to a new way of expanding their learners' linguistic and cultural knowledge and practice.

2. What are the language teachers' perceptions of the integration of authentic Internet-based PLEs?

In less-commonly-taught languages, teachers are most grateful when online resources specific to their languages are provided. The teachers we interviewed and surveyed longitudinally had a positive attitude towards the integration of authentic Internet-based PLEs, but none of them organized a full integration of the concept. They adopted blended learning alternatives and retained at least a couple of hours per week for directed grammar teaching.

3. What difference does the integration of such e-learning environments make for the course instructor in terms of usefulness and best practice?

Teachers noticed clear learning improvements through this "immersion-like experience." They were surprised with the potential of students to develop on their own "big, successful projects" with "peaks in quality learning." They noticed better pronunciation and linguistic and cultural accuracy. Contact with native speakers, exposure to regional accents and pronunciation models formally helped their students. In addition, multimedia, streaming video, and interviews with real people of all ages and professions increased student engagement.

4. What are the issues raised in practice by the attempt at developing pedagogy for autonomy?

We cannot develop student autonomy in an environment in which teachers have no autonomy. This autonomy must be negotiated. The change has a ripple effect on many levels: other courses and teachers are affected, it motivates new departmental discussion, and often teachers realize the programs and textbooks they use are limited and sometimes obsolete.

5. How do teachers develop professionally in their use of such environments?

Teachers could not really develop professionally unless they agreed to interrupt their traditional practice and question their directive form of teaching and its sequencing patterns. They first needed some theoretical and research confirmation to accept the probability that a blended approach could be as effective or even more effective than what they usually did. Thus, working on attitudes was crucial. Teachers also needed time to read, watch, and integrate the materials and the connections they could create with their own prior resources. They had to trust their ability to lead various small groups and peer teams that would organize different projects of different durations. One major area of negotiation for the teachers was related to letting go of their instructional power and creating a more horizontal relationship as facilitators. The self-trust they developed watching their students' skills grow

with self-determined projects helped empower these teachers vis-à-vis their departmental direction and/or language coordinator. Their professional development focused on pedagogy rather than technology.

6. What are the needed reforms of teacher education considering this experience?

As discussed earlier, teacher education for less-commonly-taught languages at the college level is almost inexistent. Therefore, teachers tend to replicate the pedagogies they were subjected to in their home country, with occasional modifications coming from personal motivation and brief, occasional workshops. Because there is not much chance funding will increase and help colleges create a comprehensive teacher education program in the near future, universities must hire specialists in world language education to provide the necessary support and training to faculty members and associates. Teacher educators and professional associations should consider ways of creating online environments and resources with teacher training videos that teachers of less-commonly-taught languages can access remotely. In the long run, deep and continuous teacher education should be systematized for language instructors to compare their experiences locally, in formats such as video study groups with video feedback (Tochon, 1999; 2008). The PLE topic needs to be studied more and the language-learning context provides an interesting area for the PLE research.

Overall, our inquiry revealed that instructional materials and technological innovation were not enough to bring change in the field of less-commonly-taught languages. The identities and circumstances of language instructors had to be seriously reconsidered; such that, for example, funds could be obtained to free instructors from part of their teaching load and incentives could be provided to make sure they would actually participate in the proposed professional development activities. The effectiveness of teaching less-commonly-taught languages in the United States depends upon a new vision of professional development adapted to this population of professionals.

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