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"Staellinika" Online Platform: Pedagogical Approach, Principles of Learning Design and Methodologies of Integration in Teaching Practice

Dionysios Arkadianos
(Faculty of Arts and Social Sciences, Simon Fraser University, Canada)

Abstract: Staellinika is an online platform for learning the Greek language at beginner level and can be used either by individual users who wish to have a first introduction to the Greek language, or in the context of a school classroom, as a supplementary learning material. Staellinika approaches the teaching of Greek as a heritage language, presenting the content of the lessons in conjunction with the cultural context of the language, drawing on Greek history and culture. At the same time, the platform adopts the methodology of "task-based learning", with teaching objectives that focus on the performance of specific actions through language (such as the external description of a person or the presentation of family members). In addition, the content is structured according to the principles of "microlearning", allowing students to participate in short learning sessions of 15 to 20 minutes. Staellinika offers four different courses, which address different age groups of students, from preschoolers to teenagers and adults, taking into account their developmental differences in the presentation of the content and the language skills involved. Students are motivated on the platform by incorporating gamification elements such as scores, achievement lists and collectible stickers that students can earn by successfully completing questions and modules.

Key words: instructional technology, hybrid teaching models, learning data analysis, online language learning

1. Introduction

Staellinika is an online platform for learning the Greek language, which can be used either by individual users or by schools and other educational institutions. At the heart of its pedagogical approach lie revolutionary developments in language learning pedagogy, like self-regulated learning, task-based language learning, microlearning and gamification. The aims of the project were the following:

- Provide a multi-faceted digital learning environment, optimized for both mobile devices and computers, which will support individual learners of the Greek language, as well as students in schools and organizations throughout the Diaspora, as a complementary learning resource.
- Develop engaging and age-related learning resources for the Greek language, considering the developmental capabilities, interests and specific needs of each different learner age-group.
- Support individual learners with no access to Greek schools or other learning institutions, by providing

Dionysios Arkadianos, Ph.D., Digital Learning Specialist, Faculty of Arts and Social Sciences, Simon Fraser University; research areas: educational technology and learning design. E-mail: darkadia@sfu.ca.

the necessary cognitive and metacognitive scaffolding, to ensure higher efficiency and academic achievement in Modern Greek language acquisition.

- Offer a suite of class management tools to the teachers, using learning analytics methods to create detailed student profiles and illuminate different aspects of their learning behavior and knowledge state.
- Design a flexible curricular framework for the online courses, which is compatible with most existing curricula and language textbooks used by Greek schools in the Diaspora.

2. The Design Principles of "Staellinika" Platform

2.1 Greek as a Heritage Language

Over the past few decades, there has been a shift in the linguistic situation of Greek families in the diaspora (Daskalaki et al., 2019). In the case of the first waves of Greek immigrants, heritage language learners had either acquired Greek as their first or native language, or they grew up hearing and speaking Greek in their home, thus attaining a bilingual status (Aravossitas & Oikonomakou, 2018). In both cases, heritage learners had as their dominant language the language of the host country, even though they gained some proficiency in Greek (especially in oral speech comprehension and production), mainly due to their exposure to the language through their parents. However, the situation now changed. Either the parents don't have Greek as their dominant language, being themselves first-generation immigrants, or, due to mixed marriage, the linguistic environment in which the children grow up is either multilingual or non-Greek. Therefore, exposure to the Greek language for subsequent generations in the Diaspora ranges from minimal to non-existent. Additionally, since the Greek language has low international status, it is spoken in restricted contexts in the Diaspora.

Even though the limited linguistic proficiency of heritage language learners suggests a foreign language approach to teaching and learning Greek as the most appropriate, the learners' motivational trajectories are radically different, in comparison to other cases of foreign language learners (Triantafillidou & Hedgcock, 2007). Considering the low international status of the language, motivation to learn Greek is not about an additional asset for professional development or communication, to expand an individual's skillset. This motivational differentiation is an important parameter that an intervention for teaching and learning Greek in the Diaspora needs to acknowledge, especially in terms of content development, as well as increasing learner engagement.

"Staellinika" learning platform adopts the heritage language approach to language learning and teaching, as the most appropriate to address the aforementioned goals it seeks to accomplish. Such an approach needs to integrate several elements that will increase its effectiveness and efficiency. For heritage language learners, the importance of the Greek language lies beyond mere communication challenges or potential for professional development. It constitutes a tangible aspect of their cultural identity and background. Learning Greek is the learners' effort to reconnect with their ethnic and cultural heritage, while enhancing a positive sense of self (He, 2010). As such, the Greek language must be presented and learned in its cultural context, using content which includes various historical and cultural references. "Staellinika" accomplishes this, by integrating elements from Greek history and culture in the imagery of the course, as well as in its themes and learning resources.

2.2 The Content and Its Structure

The purpose of the learning platform is to provide basic knowledge and proficiency in Modern Greek. In particular, the learning content that has been selected is equivalent to the A1 language proficiency level, as it is

determined by the Common European Framework of Reference for Languages (Council of Europe, 2001). The Framework provides a list of instructional goals for the particular level, which can be distinguished in various categories: phonetic and phonological, communicational, vocabulary, grammar, language use and cultural knowledge.

The learning material for the platform is organized in ten large thematic entities, which are called *modules*. Each module is based on a specific topic, approximately equivalent to the ones determined by the Common European Framework: introductions, family, house, daily routine, vacations, food etc. The themes are slightly modified, depending on the target audience for which the software is intended. For example, modules on school life have been included in the version that addresses younger learners, whereas for adult learners there are modules on the working environment. The content of the modules has also been adjusted, reflecting the different needs and abilities of each learner age group. Versions which are intended for younger audiences show a more rigid structure, to reflect the higher needs for scaffolding, whereas those addressing adults have less structure and wider range of thematic ties for the learning content (as advocated in Garrett, 2009). A certain differentiation is evident in the instructional goals as well, with literacy related goals and wider goal variety appearing in the upper range of the learner age span.

Finally, for the structure and implementation of the learning content and resources, the task-based language learning approach has been adopted, as it is described in Doughty and Long (2003). According to this approach, the basic level of analysis is the task, which corresponds to a specific goal in a communicational setting. Thus, the learning material and the various resources available to the learners are organized in a way that prepares them to be able to perform the target task. That specific approach actually implements the whole-task approach to complex learning, advocated by several researchers (like Van Merrienboer and Kirschner, 2017). Hence, each module in the learning platform corresponds to a particular complex target learning task that has thematic ties to its topic. For example, the module about daily routines has at its center the task of describing one typical day in the learner's life to someone else, in oral or written form. All the vocabulary, expressions, grammatical rules and pragmatic / cultural information necessary to perform this task will be made accessible to the learners in the premises of this module. In this way, all the important linguistic information and the language resources connected to the task are presented to the learners in a highly contextual manner.

In order to decide on a specific organizational schema for the internal structure of the modules, which would perfectly fit the characteristics and special conditions of the learning context, the structure suggested by Heller et al. (2006) was used. Each module has a specific internal structure, which consists of smaller learning entities called *nodes*. The nodes are connected to each other in a tree-like formation with *arcs*, which are connecting lines that denote hierarchical relationships between nodes. For each module, there is a ranging number of *initial nodes*, but always one terminal node, which will be referred to as the *end node* of the module. In order to better explain this structural schema and how it connects to the learning concepts and the instructional goals of the system, it is important to discuss first how these elements are mapped to the various elements of the learning content.

In the previous subsection it was clarified that at the center of each module is a complex target learning task, which is related to the thematic identity of that module. By means of a task analysis, this complex task is further divided into simpler (in terms of complexity) subtasks. Those subtasks derive naturally from the target task and they are not arbitrary and subjective chunks of knowledge, which do not exist independently in the real world. This is a condition mentioned by Van Merrienboer et al. (2003), in order to ensure the effectiveness of this part-task approach. Each of these subtasks corresponds to one of the aforementioned nodes, which constitute the

internal structure of the module. The hierarchical relationship between subtasks is determined by the prerequisite knowledge for each of these subtasks. Subtasks with more prerequisites appear in the upper levels of the hierarchy, while those with fewer prerequisites appear in the lower levels of the hierarchy.

However, the above structural schema appears somewhat incomplete, as it fails to acknowledge an important aspect of second language acquisition. Nikolov and Djigunovic (2006) argue that the processes involved in acquiring a second language can be distinguished in two broad categories, relating to the procedural/declarative dimension. This distinction is based on the co-existence of two different cognitive systems, which are at work during second language acquisition. The first is a rule-based system, which contains powerful generative rules, which are responsible for the construction of grammatically sound sentences. The second one is a formulaic, example-based declarative system, which stores language examples, with the function of some rules operating on chunks of knowledge. This system is responsible for storing vocabulary and specific phrases, such as expressions and collocations. Another interesting fact in reference to those two systems is that adults tend to rely more on the first one, whereas children are using more the second one. Nevertheless, the function of both systems is required for learning a foreign language.

The existence of these two cognitive systems is represented in the structural schema that is used in the learning platform through the distinction of two different types of nodes, namely declarative and procedural nodes. The first type of nodes is related to the declarative cognitive system that is used to store vocabulary and stipulated sentences and phrases, and corresponds to vocabulary based instructional goals. An example of such a goal is the acquisition of the vocabulary for the various parts of the face. In this way, vocabulary is presented in a contextualized way, as part of a larger thematic entity (module) and a prerequisite for other communicational tasks (end node or other nodes further up in the hierarchy. This contextual perspective to vocabulary presentation is advocated by various researchers (Levy, 2009; Groot, 2000). However, it is also important that vocabulary acquisition is handled in a separate way, by presenting a number of various tutorial activities to the learner (Levy, 2009). This objective is covered by representing vocabulary goals as separate nodes in the module hierarchy. The second type of nodes is related to the rule-based cognitive system, which uses stored rules to generate grammatically sound sentences to be used in various communicational activities. These nodes correspond to procedurally-based communicational goals, which relate to the subtasks that have been mentioned above. An example of such a communicational goal (that uses the vocabulary goal for the parts of the face as a prerequisite) is for the learner to be able to describe a person's face. In this way, the various grammar goals are not presented independently, but in relevance to a specific task or communicational intention (Garrett, 2009). This functional approach to grammar, which permit the integration of grammar-based goals in the procedural nodes of the hierarchy, deals with the problem of learner demotivation when studying grammar in a disconnected and decontextualized manner (Nikolov & Djigunovic, 2006).

2.3 Self-Regulated Learning and the Learning Loop

Literature provides an abundance of evidence on the challenges that the learners face when participating in a distant education course. Various researchers pinpoint the fact that the freedom that the learners enjoy in the context of such courses comes together with assuming the responsibility and control of their learning, something that not all students are able or prepared to cope with (DeTure, 2004). The challenges that these learners come across during the learning process may have an impact not only on the general academic performance of the learners, but also on the retention rates of these courses, with a portion of students withdrawing early from the

course or failing to complete it successfully (Bawa, 2016). Puzziferro (2008) argued that the importance of self-regulated learning skills on behalf of the learners is greater in distant education contexts rather than traditional ones, especially since the role of the teacher is less active and substantially limited.

Since the main purpose of the instructional design is the support of the learners' self-regulation, a model for self-regulated learning was needed as a reference framework. For this purpose, the Winne & Hadwin (1998) SRL model was used. According to this, in each learning episode there are three, non-sequential phases: *goal setting*, where the learners set the learning objectives and select the learning strategies to be followed; *action*, where the learners follow the planned behaviors and monitor the results of their actions; and *assessment*, where the learners evaluate the results of their actions and confirm or revise the learning strategies and the management of learning resources. The learning environment is designed to provide the necessary support for the learner in each of these phases. For the goal setting phase, the platform lists the individual nodes available to the learner, with a description of the learning objective accomplished by each of them. For the action phase, the software provides a variety of language resources, multimodal texts and interaction activities to reinforce the acquired knowledge or skills. For the assessment phase, assessment activities are presented to the learner to evaluate the achievement of the teaching objective, and his progress, as shown by the analysis of the learning data recorded on the platform, is presented in his learning profile, which has multiple levels of detail.

Another learning design decision, in order to enhance students' learning motivation and engagement, was the introduction of gamification elements to the learning environment and user interface of the platform. Gamification is the adoption of elements found in video games, such as scoreboards, points, achievement lists, stickers, multiple levels, etc. These elements have been integrated into the learning routines of the platform in such a way that they correspond to the progressive development of the learners' language skills. For example, the learners "levels up" in the course as they improve their proficiency in Greek. Which is measured as a system of four different language competences: oral speech comprehension and production and written speech comprehension and production. Moreover, the very structure of the course allows for the introduction of elements of gamification, as the learner starts with access to certain nodes and, by completing them, "unlocks" more difficult levels to which he or she gains access.

3. Integration Methodologies for Staellinika Platform

One of the design specifications of the software was to allow for flexibility in its integration into everyday teaching practice, and the existing Greek school curricula. The structure and instructional design of the online language learning platform, as well as its structure and functionality, offer a variety of different possibilities for adaptation and implementation, which can be considered along two different axes: different levels of integration, as well as different types of application.

In terms of integration levels, "Staellinika" platform provides different opportunities for teachers and school administrators. The online language courses can be used as the main and exclusive curriculum framework for a language classroom at the beginner's level. The thematic content and structural characteristics of the courses have been developed in such a way as to follow the guidelines and universal criteria of the most influential curricula and textbooks for Modern Greek. As such, the different modules and nodes of the courses cover extensively all the different aspects of the material and content encountered in an A1 Greek language proficiency level course. The courses can also be used in parallel with other language resources and textbooks, which is made possible through

the compatibility of the structure and organization of the content with the most popular and widely implemented Greek language textbooks. Finally, "Staellinika" courses can be implemented as a complementary language resource to existing curricula, especially in the case of novice students that need to be integrated in cohorts with higher language proficiency levels.

Regarding the different modes of implementation, the instructor's manual, which is a resource readily available to all the teachers who use "Staellinika" in their classrooms, suggests multiple types of implementations, according to the teaching style of the educator, as well as the class composition. Here are some examples:

- *Face-to-face Driver Model*. This model is the closest to a typical classroom setting. The implementation of the online language learning platform is decided on a case-by-case basis. In particular, students who face the greatest challenges, or the ones who are ahead of their peers, may benefit by progressing at their own pace while using the platform. This learning paradigm is appropriate for classes with students of diverse language proficiency, as it allows the instructor to work separately with groups of different skill level.
- *Rotation Model.* In classes adopting this particular approach, students rotate between various stations on a fixed schedule, which may include face-to-face interactions with the teacher, collaborative activities and working on computers running the online language learning platform. This model works best with project-based lesson plans, where the students will rotate through different stations, developing the necessary skills for completing a complex learning task or project.
- *Flex Model.* The Flex Model relies heavily on the online language learning component, with the use of the platform at the core of the learning process. The teacher in this model takes on the role of the facilitator of the learning process, intervening in cases where the student is struggling with the content. This approach is appropriate for classrooms accommodating the necessary equipment, in order to provide a 1:1 student to device ratio.
- *Enriched Virtual Model.* This blended learning approach is an alternative to a fully online distant education language course. The students perform the majority of their learning in an online environment, but they also attend face-to-face learning sessions with a teacher. These sessions focus on certain areas and aspects of the material where learners encounter the most challenges and allows for more interaction beyond what is available in a virtual learning space. This model is ideal for students who do not attend school on a regular basis, so their learning cannot be based on an in-class curriculum framework.

4. Conclusion

As Greek schools in the Diaspora struggle to overcome the challenges in language teaching and learning, demand for accessible Greek language learning tools that support the hard work of Greek language instructors and their students only continues to grow. Staellinika's instructional design idiosyncrasies, the affordances provided by the features and functionality of the learning environment and its continuous evolution, with content expansion and extended revision of the toolset provided to students, educators and administrators, is a reliable learning resource that is easily integrated to different curriculum frameworks and types of classrooms.

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