

## PERSONAL LEARNING ENVIRONMENTS FOR LANGUAGE LEARNING

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### Abstract

*The advent of web 2.0 and the developments it has introduced both in everyday practice and in education have generated discussion and reflection concerning the technologies which higher education should rely on in order to provide the appropriate e-learning services to future students.*

*In this context, the Virtual Learning Environments (VLEs), which are widely used in universities around the world to provide online courses to every specific knowledge area and of course in foreign languages, have started to appear rather outdated. Extensive research is under progress, concerning the ways in which educational practice will follow the philosophy of web 2.0 by adopting the more learner-centred and collaborative approach of e-learning 2.0 applications, without abandoning the existing investment of the academic institutions in VLEs, which belong to the e-learning 1.0 generation, and, thus, serve a teacher- or course-centred approach.*

*Towards this direction, a notably promising solution seems to be the exploitation of web 2.0 tools in order to form Personal Learning Environments (PLEs). These are systems specifically designed or created by the combined use of various external applications or tools that can be used independently or act as a supplement to existing VLE platforms, creating a personalized learning environment. In a PLE, students have the opportunity to form their own personal way of working, using the tools they feel are most appropriate to achieve their purpose.*

*Regarding the subject of foreign language, in particular, the creation of such personalized and adaptable learning environments that extend the traditional approach of a course seems*

to promise a more holistic response to students' needs, who, functioning in the PLE, could combine learning with their daily practice, communicating and collaborating with others, thus increasing the possibilities of access to multiple sources, informal communication and practice and eventually acquiring the foreign language.

**Purpose**—The purpose of this study is to investigate the ways in which foreign language teachers could take advantage of web 2.0 technologies to form efficient and easy to use personal learning environments (PLEs) for their students in foreign language learning courses.

**Design/methodology/approach**—In this paper we firstly present the current research on PLEs, as well as the different ways of their formation and the pedagogical context in which they are based. Furthermore, in order to investigate the possibility of developing PLEs for language teaching/learning, we examine the technological platforms and web 2.0 tools that could help a foreign language teacher without special technical skills to develop an environment suitable for use in a language course. Towards this direction, specific solutions-PLEs based on tools available on the web and especially designed for this purpose, are proposed.

**Findings**—In this paper, the capabilities and characteristics of the proposed PLEs as well as the advantages and the disadvantages of the proposed settlements are detected. Moreover, as PLEs are a potential next step in the formation of future VLEs, the way in which the proposed solutions could extend the existing VLE installations and potential as well as the possibility of their parallel utilization is also examined.

**Research limitations/implications**—A PLE can be developed in several different ways, which vary in degree of difficulty and development requirements, in terms of manpower and the skills involved, and of course in terms of financial resources. Having that in mind, the proposed solutions meet many of the above requirements, as they are exclusively based on tools that are freely available on the web and do not require the allocation of funds, or the existence of a multidisciplinary production team.

**Practical implications**—Application solutions such as those proposed in this article will help foreign language teachers to use a wider variety of resources and organize them in a better and more useful way for their students, while allowing them to develop new, more suitable pedagogical approaches.

It will also provide new opportunities in a foreign language course and will offer students work environments compatible with their daily lifestyle, motivating them to be more productive and thus, to study more effectively and learn in a more natural way.

**Originality/Value**—Although research on PLEs is in constant progress, the ways in which such environments could be used in a foreign language course, have not yet been investigated thoroughly. It is believed that this work will contribute to finding ways in which foreign language teachers will be able to exploit the potential of Web 2.0 technologies and offer new perspectives in foreign language courses.

**Keywords:** Personal Learning Environments, e-learning 2.0, future VLEs, PLEs, foreign language learning, web 2.0 tools, TEL, Netvibes, SymbalooEDU.

**Research type:** research paper

## 1. Introduction

At an international level tertiary education faces the changes that the new technological reality has brought about to the learning habits of students. These changes are due to the daily habits and behaviour of students, behaviour that is becoming all the more online, following technological developments (Siemens & Tittenberger, 2009). Within this framework, higher educational institutions are requested to adopt a new approach, embedding the online activities of users in their educational practice.

According to the Distance Education Survey (2011), and an equivalent research of New Media Consortium/EDUCAUSE (Johnson et al, 2012), 71% of higher educational institutions base their e-learning program on some Virtual Learning Environment (VLE). Although it is beyond any doubt that VLEs present serious advantages, the advent of web 2.0 and the developments it has given rise to, both in the daily and the educational practice, have created discussions and raised questions concerning the technologies that tertiary education must be based on for the future provision of e-learning services to their students. Hence, Tertiary Educational Institutions are attempting to modernize their e-learning environments, so that they can offer their students services that best fit their understanding of learning and the way they are used to functioning.

The strongest tendency to address this issue is the substitution or extension of existing VLEs with the addition of web 2.0 tools for the development of Personal Learning Environments (PLEs).

The present article analyses the reasons leading to these changes, examines the possibility of the development of PLEs and presents solutions that can be used by educators and teachers of foreign languages in particular.

## 2. Theoretical Background

After about a decade of development, current commercial VLEs (Blackboard, Desire2Learn), as well as the open source VLEs (Sakai, Moodle), which most Higher Education Institutions base their e-learning programs on, seem to have reached culmination. The functions that continue being added in each new addition consist of ameliorations at certain points without signalling any substantial change, especially pedagogically-wise. Therefore, VLEs seem to follow current technological developments at a distance, since they were developed at the web 1.0 era.

It is true that VLEs compose a thorough solution for the offer of e-learning services. They offer significant services concerning access to resources/courses in a structured way, authentication and course registration of users, as well as monitoring learners' activities and results. There is significant scepticism, however, among researchers of the field, as to whether the quick pace of VLE infiltration over the last years in the academic field is followed by equivalent innovations from a pedagogical point of view. There is, thus, a widespread belief that VLEs do not respond to the needs of users any longer because of their strict and hierarchical structure which turns them into an enclosed world,

organized around the needs of institutions and teachers (Coopman, 2009; Wilson et al, 2007; Van Harmelen 2006). Several researchers believe that the design of VLEs focuses mainly on the manipulation and delivery of content (Chang, 2008; Sclater, 2008) and does not manage to motivate learners or engage them in more interactive activities (Beer et al, 2010; Clark et al, 2010). In addition, it does not favour the development of cooperation among learners (Mott, 2010; Wenmoth, 2009; Lane, 2009).

In addition, several researchers raise the issue of the learners' possibility to intervene in the content. Despite the constructivist theoretical background certain VLEs are based on, they are teacher- or course-centred rather than learner-by-definition.

Learners are more or less obliged to move around what the teacher has already pre-planned for them. Their role is passive and restricted by the functions VLE allows while the experience and interaction with the content is the same for all users, regardless of each learner's learning needs (Martindale & Dowdy, 2010).

Thus, it becomes clear that the advent of web 2.0 and its services creates the need for a new educational model in which users can select the content that is appropriate for their needs, approach it in ways that they desire, interact and, generally, function in an online environment that does not restrict them like institutional VLEs do (Sclater, 2008).

This new model no longer focuses on a one-way provision of knowledge, but on the personal effort and pursuit and on the social production of knowledge (Sbihi & El Kadiri, 2010). Learning takes place mainly informally, via the use of social software (blogs, wikis, podcasts and long tail learning) which is used freely and is not based on predetermined scenarios. Learners detect and compile the content, resynthesize it according to their needs and preferences, supplement it with additional sources, re-distribute it to other users who are interested in the same subject and forge their learning course themselves while interacting with the other learners or/and their teacher (Brown & Adler, 2008).

It is common belief among researchers in the field that the social software offers significant advantages for education (Conole & Alevizou, 2010; Ferretti et al, 2008; Ravenscroft, 2008; Thalheimer, 2008; McLoughlin & Lee, 2007; Owen et al, 2006). It is for this reason, and the fact that it is becoming clear that such an approach cannot be supported by current e-learning systems, that designers of VLEs are making efforts to include social software so as to adapt them to the new demands of users. Despite this fact, several researchers believe that VLEs cannot meet the demands of the new generation of learners (Peter et al, 2010, Mott, 2010, Beer et al, 2010, Siemens, 2006), as their philosophy does not match the rationale of the web 2.0 services, the new generation of e-learning 2.0 applications and the new pedagogical approaches that support them. It therefore becomes clear that conditions require new pedagogical practices which will be supported by new technological tools. The central idea is the development of educational technology that will suit the natural way people learn and will allow them to build learning environments suitable for social interaction, informal and collaborative learning.

To this end, several researchers suggest Personal Learning Environments as the most suitable solution to surpass those points where VLEs are at a disadvantage (An-

netta et al, 2010; Martindale & Dowdy, 2010; Godwin-Jones, 2009; Sclater, 2008; Van Harmelen, 2006).

The term PLE appears for the first time in 2004 in “The Personal Learning Environments Session” at JISC/CETIS Conference (Schaffert & Hilzensauer, 2008). Efforts for the development of a PLE started in 1998 with the Future Learning Environment (Fle3) and continued in the 2000 decade with the Colloquia (Van Harmelen 2006),<sup>1</sup> NIMLE, SHELL, EDUTELLA and ROMA projects. At the same time, the social networking sites Elgg<sup>2</sup> and 43Things<sup>3</sup> were presented while efforts to create environments that would constitute a model for the development of PLE began. Projects Manchester PLE<sup>4</sup> (Van Harmelen, 2006), PLEF<sup>5</sup> (Chatti et al 2010) and PLEX<sup>6</sup> (Severance et al, 2008; Van Harmelen, 2006; Johnson & Liber, 2006) and the European programs TENCompetence<sup>7</sup> and ROLE<sup>8</sup> (Kirschenmann et al, 2010) belong to this category.

The various approaches aiming at the development of PLEs show the difficulty to define the field accurately. It is due to this difficulty that several researchers believe that PLEs do not represent any specific new category of software but rather a concept or “new design pattern” that distances itself from the isolation rationale of VLEs and emphasizes the learning practices of users via numerous technologies (Wilson et al, 2007). In the same direction, Jafari et al (2006) and Van Harmelen (2006) define them as personal elearning systems that allow users to define their learning aims, manage the content and process, communicate with others during the process, and take control of their learning choosing the way to achieve their learning targets themselves (and possibly the teacher).

Most researchers agree that there is no “typical” PLE (Chatti et al, 2010). They consider PLEs as personal systems, environments or collections that consist of tools and external services—usually web 2.0—which users select and organize in such a way as

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- 1 Colloquia is a conversation-based PLE developed for group work. Colloquia allow users to create workgroups based on contexts or projects. These contexts allow for the sharing of resources, messaging, and project management (Martindale & Dowdy, 2010).
  - 2 Elgg (2004), is an open source aggregation portal which offers a number of functions such as blogging, social networking, file repositories for individuals and communities, Podcast support, access control, tagging, user profiles, RSS support, RSS aggregator, creation of communities, collaborative community blogs, creation of “friends” networks, content import, blog and customization.
  - 3 43 Things (2005) is a social networking website established as an online goal setting community. It is built on the principles of tagging and the concept of folksonomy.
  - 4 JISC-funded Manchester Framework Project produces a framework that can be act as a VLE (server side) and a PLE (desktop client).
  - 5 PLEF (Personal Learning Environment Framework) is software that differs from “start pages” as it supports a number of functions such as OpenID authentication, commenting, sharing and full-text or tag search of all PLE elements, and special navigation features.
  - 6 PLEX is a “Personal Learning Toolkit (PLT)”, that feeds aggregate information from services and conduits publish information to services. PLEX supports standards such as RSS, Atom, and FOAF and has People, Resources and Activities as the building blocks.
  - 7 Who developed Personal Competence Manager (2009).
  - 8 Responsive Open Learning Environments (ROLE) is a European collaborative project with 16 internationally renowned research groups from 6 EU countries and China which aims at supporting teachers in developing open personal learning environments for their students. See: <http://www.role-project.eu/>

to build their Personal Knowledge Networks and serve their learning needs (Ingerman & Yang, 2010; Chatti et al, 2010; Ullrich et al, 2010; Peter et al, 2010; Schaffert & Hilzensauer, 2008; Wilson et al, 2007; Van Harmelen, 2006). It is generally accepted, however, that PLEs give users access to a number of applications and services, to a network of peer learners, and, mainly, to the control of the learning process (Martindale & Dowdy, 2010).

Attempting a brief outline of the views of Chatti et al (2010), Martindale & Dowdy (2010), Drachsler et al (2009), Severance et al (2008), Jafari et al (2006), Johnson & Liber (2006), Lubensky (2006), and others, PLEs present certain basic characteristics:

- PLEs are open systems that are controlled by individuals and function independent of the educational institution. They do not obey any standards and do not require the existence of a centrally controlled data storage space but take advantage of the knowledge which is distributed among various sources and communities. In this sense, PLEs do not share the concept of system administrator. Users should be able to create/discover the capabilities of the system themselves.
- PLEs are customizable, as they allow the user the use of a variety of web 2.0 tools, digital resources and digital services to which the individual currently subscribes (including the institutional VLE). The users can create connections with any systems and services they are interested in themselves and arrive at knowledge through aggregation, linking and metadata tagging.
- They concentrate all the tools users need in one place/environment and simplify their management. They also allow interconnection with other personal spaces for effective knowledge sharing and collaborative knowledge creation. Thus, users can cooperate with others building a temporary ecosystem without attaching themselves to a formal organization or institution.
- They promote informal and lifelong learning: Learning does not end when a course ends—like in an LMS—In PLEs learning continues and can connect formal, informal, and lifelong learning opportunities in a learner-centred way. They are a Bottom-up approach that is dictated by the users' needs.

Therefore, it becomes clear that PLEs represent a turn from the model where users simply consume a piece of information to a model where users become autonomous and create links with a variety of sources which they select and organize themselves. The principal philosophy of PLEs is the learner-centred approach since they are based on Informal learning and constructivism and on social constructivism or “connectivism,” in particular (Siemens, 2005), assigning the user the basic role of knowledge building, via the creation of communities and the creation, remixing and sharing of resources.

Thus, they become a digital substitute of the natural environment where users learn outside institutional space. The informal way of learning that people use in their everyday life, through study groups, discussions or collaboration with peers (peer networks or communities of practice), can be simulated by social networks and PLEs and substitute managed learning that takes place in a VLE (Martindale & Dowdy, 2010).

In such an approach PLEs favour the personal pursuit of knowledge which promotes authentic learning incorporating—if the learner wishes—the help of the teacher for the learning activities.

Through the selection and incorporation of the appropriate communication, aggregation, syndication and collaboration tools, PLEs allow users to have access to learning regardless of time and place, institutional, technical, or pedagogical barriers and to decide on the most appropriate way to approach knowledge. At the same time, they allow users to use them as common interface for the various institutional e-learning systems with which they connect and work in an informal way in their everyday life as well. According to Godwin-Jones (2009), the development of a PLE is useful in itself since it can offer a common place of reference for educational use, informal learning, on-the-job training, and a form of e-portfolio, thus substituting institutional VLEs.

On the other hand, PLEs demand responsibility and thought on the part of the users concerning the tools and the sources they will use to achieve their aims. As information is available everywhere and at all times, the success of a PLE depends on the user's ability to find it and recover it. In this context, there is no teaching (one-way transfer of information) but an—often cooperative—activity of organization, blending and incorporation of data to acquire knowledge. In this process, users must be able to select learning content themselves, to use a variety of software and services of web 2.0 effectively and in combination, to have better understanding of copyright and have internal motivation to learn (Schaffert & Hilzensauer (2008). At the same time, they should not only retrieve information, but also be able to assess it, reflect on it, create links and possibly cooperate with others in order to acquire knowledge.

As learners do not follow any teacher-predetermined scenarios in PLEs, they need to adjust their learning environment to their needs so that they can develop the necessary learning skills. In a PLE learners can form their own personal learning space using a combination of tools, applications and services that can support them in the learning process.

From a technological point of view, PLEs can be desktop applications or consist of various web-based services (Van Harmelen, 2006). According to Lubensky (2006), they can also be WebTops, desktop applications, content management systems, mash-ups, or simply blogs. In an analysis of several PLEs, Wilson (2008) detected a variety of tools and services: chat and messaging tools, groupware and community tools, calendaring, scheduling and time management tools, news aggregation tools, blogging and personal publishing tools, social software, authoring and collaboration tools, as well as Integration tools. So, the characteristics of PLEs differ since they develop via a combination of applications and services which are accessible through a variety of devices (laptops, mobile phones, portable media devices).

Most researchers believe that there is no single PLE suitable for all users. Several, however, think that it is possible to design a framework that would help the development of PLEs. To this end, the development of a model suitable for the design of PLEs, several proposals have been made, such as those of Jafari et al (2006) and Chatti (2007). The Jafari model focuses on the existence of an e-portfolio, a “Swiss army toolbox” with all the necessary tools

for day-to-day learning and teaching tasks and the support of “personal intelligent agent software.” Chatti focuses on the integration of learning communities and considers PLE an application integrator which must assist users in easily incorporating third-party services directly into their PLEs based on their needs.

Towards a different direction from the researchers mentioned above, Scatter (2008) believes that there are three distinct ways for the development of PLEs: the development of client software, to mediate between the learner and various resources and internet facilities, the use of Web based portals without the need for client software, and the creation of custom PLEs using a range of online facilities. Certainly, the above categories differ significantly in the degree of difficulty and the required skills and resources for their development. However, they are based on the same technologies, which are described below.

Although Web 2.0 uses several Web 1.0 technologies—like XML, CSS, JavaScript and RDF, as well as new technologies like RSS, REST protocol and websites based on APIs (Rolett et al, 2007), the provision of applications “Software as a Service” (SaaS) is based on Ajax technologies, which allows the asynchronous data exchange between the web server and the browser without the need of re-transmitting the whole page.

The term Ajax (Asynchronous JavaScript and XML) includes various technologies like HTML/XHTML and CSS for the visualization of information, Document Object Model (DOM) for the dynamic control of the document, Javascript (or ECMA script), XML και XSLT for the exchange of data and, XMLHttpRequest for the asynchronous data retrieve from the server (Anderson, 2007; Garrett, 2005). The core technology however is Ajax Engine, which is located in the browser and allows the asynchronous communication with the server. That means that in case a small piece of the page needs reloading (after a users’ click or choice), the new piece of information can be sent from the server to the browser in real time, without the need of reloading the whole page. Ajax communication is carried out using XML language, and is based on the REST (Representational State Transfer) protocol. In the browser, technologies like Asynchronous JavaScript, XML (Ajax) and JavaScript/Ajax frameworks are used.

Data requests to the server are separated from the data sent from the server to the browser to achieve uninterrupted user interaction with the page. The data sent from the server (in XML or JSON format) are received from the browser, which translates them with the use of JavaScript (using the DOM model) in order to dynamically redraw the specific part of page. This allows the creation of services with a more natural function and the provision of a faster and uninterrupted user experience, similar to that of a desktop application.

Ajax technologies are fundamental for Web 2.0 as they are the basis for the provision of RIA (Rich Internet Applications) to the browsers.<sup>9</sup> However, special reference should be made to certain other technologies as well, necessary both for the reuse of

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9 Other technologies and tools are also used, like Flash (this is the case in YouTube), OpenLaszlo, Microsoft WPF/E and XAML, Mozilla XUL, Adobe Flex, JavaScript/Ajax frameworks and microformats.



knowledge and the production of new: RSS, Mash ups and Widgets (Ravenscroft, 2008; McLoughlin & Lee, 2007; Owen et al, 2006).

A mash up is a website, a service or an application that combines content from multiple web sites into an integrated product. Data mash ups can be enterprise or consumer (Hoyer & Fischer, 2008). In both cases mash ups provide to the user an integrated experience. Mash ups perform content or services composition directly from the end user's browser (Fiaidhi et al, 2009). Instead of opening several Web pages, the user is able to create an individual start page pulling the information from different sources (Lamb, 2007).

RSS and Atom, a similar technology based on XML, are mechanisms that allow users to be provided with content from the internet without the need to visit the site that hosts it. Using RSS/Atom feeds (which include full or summarized text, plus metadata such as publishing dates and authorship), publishers of information can syndicate content to subscribed users via feed readers (or aggregators). The aggregator software checks the user's subscribed feeds regularly for new work, downloads any updates that it finds, and provides a user interface to read the feeds.

Widgets are desktop or web (portable) applications that provide the user with a specific way to interact with the underlying resources. Widgets use HTML and CSS code which contains the actual content of the widget and javascript which is used to provide the programming logic behind any interactivity in the widget (Godwin-Jones, 2009). Widgets include graphical elements (icons, pull-down menus, buttons, etc.) for displaying information and for inviting, accepting, and responding to user actions. Widgets are sourced via public APIs, and are responsible for providing an interface offering simple and efficient user interaction mechanisms that abstract from the technical description of the Web-based resource (Hoyer & Fischer, 2008).

### 3. Research Methodology

It therefore becomes clear that the design of client software demands high programming skills and the collaboration of a group of people with different skills which can cover a wide range of fields of knowledge. Thus, simple users, learners and teachers should focus on the use of web-available portals or tools in order to develop a PLE that will be suitable for their needs.

The use of an aggregation tool ("start page") for the design of PLE seems promising since it is founded on tools that are available on the internet for free, does not demand programming skills—beyond a high level of familiarization with technology and web 2.0 services—and is compatible with the philosophy of PLEs, as that was presented above.

Ajax-powered personalized start pages (also known as Web desktops, Ajax desktops or customizable portals) are systems that allow users to aggregate and link content of various resources using a visual interface, in order to create their own learning space according to their individual needs.

Personalized start pages were not designed for educational purposes but rather for commercial use, and the creation community portals or personalized workspaces. They provide a means to facilitate the aggregation of different services into a personalized space, through the use of technologies like RSS and widgets (Chatti et al, 2010). In certain cases, they even allow the replication of some course management functionality in an open, public environment (Diaz, 2009).

In order to create a PLE (which for every user is of course something different), students and instructors can choose among a variety of mini-applications or widgets, suitable -each time- for their purposes (Godwin-Jones, 2009). Personal start pages are accessible from any computer or portable device and have several advantages and possibilities. Users can adapt and formulate the start page according to their personal taste and style (themes, colours, background, etc.) and arrange the necessary modules, usually using drag & drop, in columns and/or tabs. Since all the usually necessary resources are web-based, there is no need for the use of any other software simultaneously. Users can add links to the web sites they usually visit, check their email, search for information using a search box, add any widget they may need, and share their content with others (Kieft-Wondergem, 2008). The most useful feature is the possibility to add RSS information, which can be easily held by the integrated RSS reader. Anything that has an RSS-feed can be included, giving users the choice of browsing a personalized content stream from blogs, news services, library catalogues, campus information from student services on a single, easily assembled and used dynamic resource page (Lamb, 2007). Start pages may be personal, or public. A personal page may contain tabs accessible by others (public). However, it is possible to create public spaces (Universes) where authorized users may intervene in the content.

Several services that offer the possibility of creating start pages are available in the market. Since not all of them adopt the same philosophy, the possibilities of SymballoEDU, iGoogle, Protopage and Netvibes were examined for the purposes of this research.

SymbalooEDU is an environment that enables users to organize, integrate and share online resources through the use of a simple visual interface (Ragupathi, 2011). Given the fact that young users, mainly, show special preference to accessing the various services via mobile devices, the interface of SymballoEDU is designed to simulate the appearance of a tablet or smartphone. This is also the main difference between this software and the rest of the start pages: the design of its interface does not use columns or tabs but an icon (tile) box through which all functions are performed. Using those tiles (which are connected to various sources) teachers can create their own mixes and share them with their students (Harwood, 2011).

iGoogle, is a tool for the Mashup market aimed to centralize all personal information in an easily customizable browser page. iGoogle is a combination between a repository and front-end tool, but its main capability is to present content from different sources (Hoyer & Fischer, 2008), as it offers users the capability to add RSS feeds and Google gadgets, but also the possibility to create their own gadgets. This is a simple process of choosing a pre-defined behaviour or of pasting in existing HTML or XML code (Godwin-Jones,2009). iGoogle, also allows users to embed certain widgets by ge-

nerating a code snippet which can be cut and pasted into another environment (Sire et al, 2009).

Protopage and Netvibes adopt the same type of layout with iGoogle, as they create the page via drag-and-droppable boxes that can be organized into tabs.<sup>10</sup> However, sharing pages with others is also possible with these.

Protopage is more customizable than iGoogle as it allows the user to create customizable tabs, while it also offers significant possibilities of intervention in the interface since it allows the user to resize any individual widget to take up more than one column. Users can create their own widgets and connect them with any website, account or feed server they like.

Netvibes is a personalized dashboard publishing platform organized into tabs, with each tab containing user-defined modules. Concerning page layout and the use of themes or columns, it offers all the possibilities Protopage does, while it also includes a huge repository of predefined resources.

All the necessary widgets are built-in, including support for POP3, IMAP4 and webmail, RSS reader, web storage service, social bookmarking services, media repositories and podcast support with a built-in audio player. Netvibes also allows users to embed certain widgets or to create their own (Purdy, 2009; Sire et al, 2009). Users can assemble favourite widgets, websites and services, blogs, e-mail accounts, search engines, instant messengers, photos, videos or podcasts, thus creating a customized information gathering space (Martindale & Dowdy, 2010; Pence & Pence, 2008). Netvibes is supported by an Ecosystem, that is, a collection of user submitted modules/widgets built using Netvibes Universal Widget API (UWA), feeds, dashboards, themes and tools. Widgets can be tagged, rated or commented and are findable through categories or browser search (Hoyer & Fischer, 2008) Netvibes allows users to create private or public pages-“Universes” (Godwin-Jones, 2009). Users can also choose to “publish” certain pages which, thus, are accessible and can be edited by others (Sire et al, 2009; Purdy, 2009).

From the start pages that were assessed, iGoogle, Protopage and Netvibes develop workspaces based on the same logic of columns and widgets. Since iGoogle, as was officially announced, is going to stop operating in November 2013, the development of a PLE based on it seems to be meaningless. Between the other two, the decision taken was to use Netvibes, as it is superior concerning points such as the built-in features and widgets, RSS reader, customizability, and the extended supporting “Ecosystem”.<sup>11</sup> So the comparison of characteristics and possibilities and the practical trial of the software mentioned above resulted in the creation of two PLEs, based on SymballoEDU and Netvibes.

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10 Pageflakes, which was widespread in education, had the same rationale. However, it recently stopped its operation.

11 Netvibes is also superior in matters such as the embedment in VLEs. Furthermore, Netvibes possibility of exporting individual OPML files from each page is also important for those who possess high programming skills (Purdy, 2009).

As the development of these PLEs concerned language learning, it was considered appropriate to include in these PLEs a series of characteristics and capabilities that could be useful not only to teachers but to learners as well. To this end, effort was made to embed as many of the following tools as possible, with the rationale that these could help, as far as possible, a learner or teacher to approach authentic sources of the foreign language.

The starting page features the following components (tools and widgets):

- Communications (videoconferencing, POP3 and webmail accounts)
- Social networking (Users accounts in social networks and social bookmarking)
- Content creation (Users blogs)
- Media (video, images, slides, sounds) repositories
- Media search (Web, Video and Image search)
- Multimedia players (Podcasts, Web radio, WebTV)
- RSS feeds (French newspapers and magazines feeds and blog feeds)
- Language specific tools & Collaborative tools (Collaborative writing tools, translation, vocabulary and dictionary widgets, spell checker, text-to-speech synthesizer, voice recorder and playback)
  - Bookmarks/web pages (recommended websites, French resources, language learning exercises)
  - Quizzing (online exercises tools)
  - Misc. Tools and widgets (to-do list, calendar, etc.)
  - Connection to the Institutional VLE (Moodle)
  - Connection to the Institutional Website (Dep. Of French Studies website)

#### 4. Results and Findings

Although the Start page (“webmix”) that was developed in SymbalooEDU (Fig. 1) is easy to use, it functions more as a starting point for web sites or services that the user is interested in, rather than a PLE in which the user can work or learn.

The reason behind this is that, although there is the possibility of a certain type of links to function within the environment of SymbalooEDU, in most cases the choice of each tile leads the user to a new page where the selected service is uploaded. In addition, the visualization area is very limited and does not favour reading, even in cases where this is possible, such as the RSS feeds. In certain cases, as in webcast radio or presentations, a new window pops up within which a sound file is reproduced. As a result, part of the screen is covered and prohibits the user from performing another function at the same time. The existence of tabs, which the user can have access through to other webmixes which he can develop himself or select from the service database, is nevertheless useful. Consequently, the use of SymbalooEDU for educational purposes, and in particular for language learning, would be a good choice only in the case of access via mobile devices, since the design and function of the interface is clearly aimed at these.

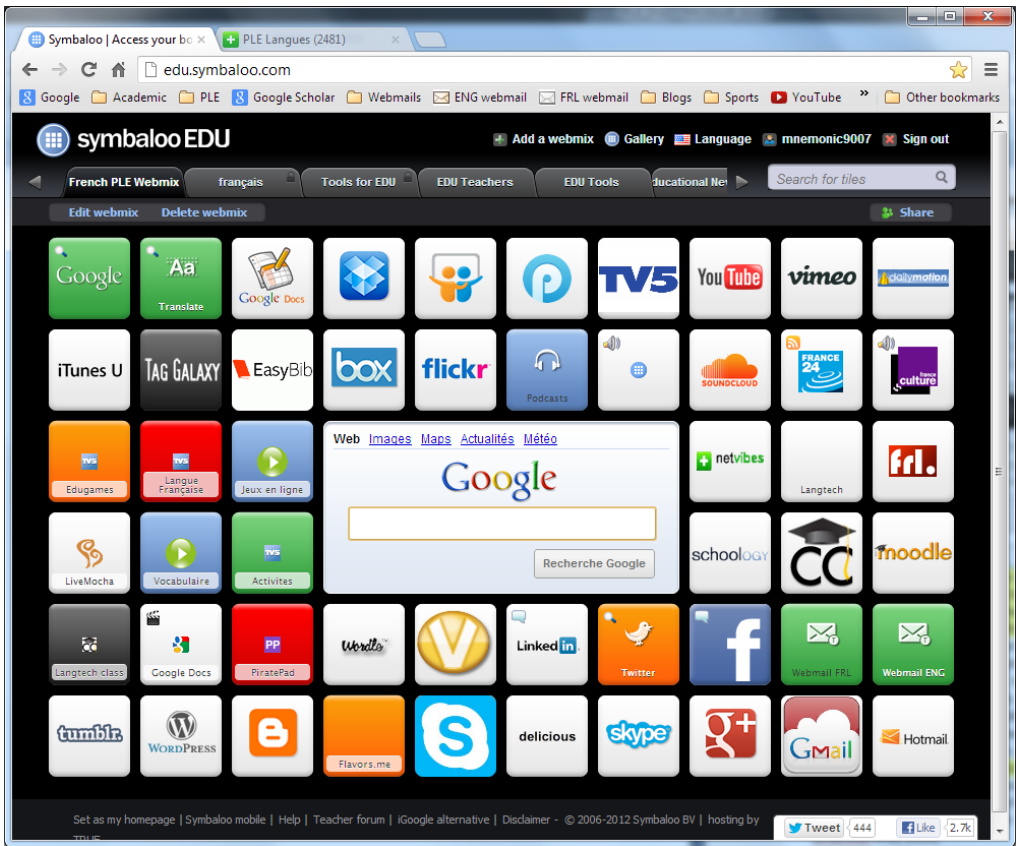


Fig. 1. SymbalooEDU PLE

Unlike the PLE created in SymbalooEDU, the PLE designed in Netvibes is far more functional and complete (Fig. 2). Netvibes PLE disposes two “views.” The first is accessible only by the user/creator via an authentication procedure (personal page), while the second is freely accessible, as it can be defined by the user as “public page.” In the public page, the user places the functions he wishes to be available to other users, too. So, after the user has placed as many widgets and service/feeds/webpage connections as he wishes, he can then copy or move them in the public page, in order to make them publicly available. This way, the teacher can create a tab for a specific lesson in his personal page, fill it with all the necessary resources and tools, and then publish it to his students by moving it to his public page.

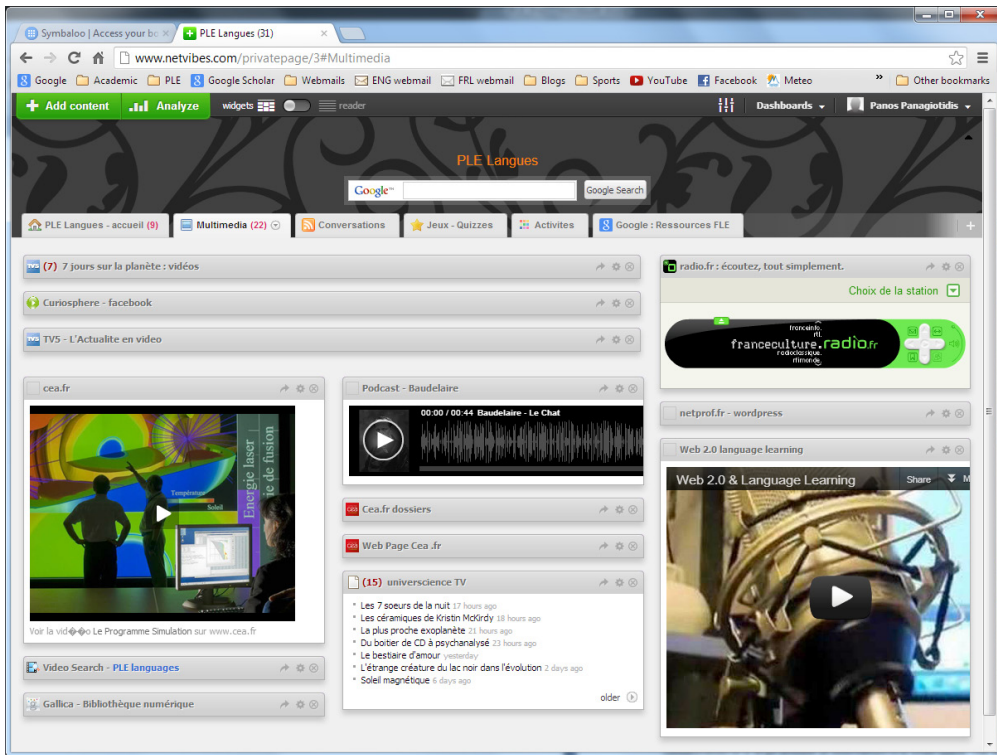


Fig.2. Netvibes PLE

The PLE is organized in tabs, so that the widgets can be arranged in groups, according to their functionality and the task they are addressed to. In the main tab “PLE languages—accueil” the user have access to several personal services such as email (POP3 and webmail) accounts, social network accounts (Facebook, Twitter), personal blogs (Tumblr) and tagging services (Del.ici.us) as well as in his personal bookmark collections and the Netvibes ecosystem of feeds, widgets and tools. The Skype widget as well as search tools for web and image search and some common tools like a to-do list, a calendar and a calculator, are also available. From this tab, the user can have access to his courses, as well, and work normally in the Institutional VLE (in this case is Moodle).

As this PLE addressed for language learning, the other tabs have language resources, organized by type. The “Multimedia” tab contains a collection of multimedia resources as videos (Youtube, Curiosphere), podcasts (uploaded in Podomatic), radio emissions (radio.fr), as well as some useful sites with educational resources (netprof.fr, Gallica-Bibliothèque Numérique, TV5). The “Conversations” tab contains feeds from several sources like French newspapers and magazines, French TV or news sites. Feeds can be read either in widget mode or in the (more convenient for this purpose) “reader” mode. The “Jeux-Quizzes” tab is dedicated to interactive resources and contains educational games and quizzes from several websites. The “activities” tab is equipped with language specific widgets and tools like translator, dictionary, text to speech and voice recorder.

In this tab there are also tools that can support the collaborative work of the student, with peers or the teacher: two widgets for collaborative writing (Pirate pad and Google docs) and a widget for creating discussions fora (LANGTECH Class). It must be noticed that the tabs layout (columns) as well as every widgets' functionality (position, height) are fully customizable. Thus, it is easy to find the best arrangement and widget combination and a convenient way to adjust the PLE in order to visualize the information that best serves the user's task and goals.

Certain general conclusions can be drawn from the use of the PLE that was created in Netvibes. These conclusions could be generalized for the rest of this type of software, as it is common belief that Netvibes is the most evolved start page, both in possibilities as well as in functionality and reliability.

To start with, sometimes the creation and the manipulation (dragging) of widgets present malfunctions. The most important problem, however, is the limited space that exists for widgets for the visualization of information. Especially in cases that other Web sites are included as an iframe, only parts of the included page are visible and scrolling is required to see the rest of the page. The problem becomes worse as the number of widgets on the page increases. Furthermore, access to webpages that require login via these widgets is often problematic as the PLE is not aware of the interactions taking place on the page (Ullrich et al, 2010). The most important drawback, however, seems to be the concentration of a large amount of information in a small space. The learners can be overwhelmed by such an amount of information and the large number of widgets.

It is obvious that the concentration of many widgets in the space available on the screen, which, in the case of mobile devices is very limited, is problematic. In addition, it is certain that the user does not need the entire set of tools for the performance of a certain task simultaneously. However, combinations of the widgets mentioned above could satisfy many needs of language teaching/learning, such as reading short texts in the foreign language, writing in different contexts and practicing speaking and listening.

## 5. Conclusions

The above make it clear that researchers in the field of e-learning systems believe that PLEs present significant advantages for education. They are tools that can offer learners rich learning environments and maintain their interest for much longer than existing VLEs. Concerning language learning, in particular, PLEs can help users approach the language and its native speakers much easier and in a richer context than traditional VLE systems. Additionally, they can support many educational practices—both informal and formal—and many information literacy goals, from source selection, creation of effective search strategies, and better understanding of the information around a specific topic, through the variety of sources they can concentrate in a common space (Kolah & Fosmire, 2010).

It is for these reasons that many believe that the academic community should abandon campus portals and use Ajax-based desktop environments, such as Netvibes,

instead (Molina, 2006). Furthermore, for some researchers, PLEs provide the new level of learning that is required by the new type of learners, compared with the traditional VLEs which most educational institutions use (Fiaidhi et al, 2009).

There is, thus, the belief that the transition from the existing, institution centric teaching and learning systems (VLE approach) toward those that focus on the context of the individual learner (PLE approach), or one that combines the benefits of both is already underway (Severance et al, 2008).

Nevertheless, it is a fact that there are services which cannot be offered by PLEs, such as user authentication, assessment tools and class management. There is also the possibility that the PLE distracts learners from their work as its environment offers a large amount of information. Therefore, many believe that the users (learners and teachers) may feel more comfortable within a familiar and homogenized environment, such as this of VLEs. At the same time, institutions have several reasons to continue working with VLEs, in which they have invested large sums of money. The spread of PLEs will give rise to complexity, will take control of content away from institutions and will question the safety and reliability of the system (Godwin-Jones, 2009).

As the academic community rests in doubt concerning the systems it should invest in for future use, two options seem to be available for future choices.

The first is the evolution of VLEs towards the adoption of PLE approaches (Severance et al, 2008). The second option, and perhaps the most appropriate, is the concurrent use of both systems. The development of a PLE does not exclude VLEs, which could be part of it or linked to it in some way.<sup>12</sup> VLEs can remain in operation as the backbone of higher institutions and formal educational systems, while PLEs can dominate informal learning (Wilson et al, 2007). This, after all, seems to be the *de facto* choice of users in their everyday life.

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12 As in Open Learning Network that combines the possibilities of a VLE with characteristics of a PLE (Mott, 2010). A similar case is the embedment of Netvibes in the VLE Desire2Learn, where the Netvibes page is used as the home page within Desire2Learn, while the Desire2Learn toolbar is still available at the top of the page (Godwin-Jones, 2009).



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## ASMENINĖS MOKYMOSI APLINKOS: ASMENINĖ KALBŲ MOKYMOSI APLINKA

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**Santrauka.** Pasauliniu mastu aukštojo mokslo institucijos pokyčių akivaizdoje yra priverstos keistis ir prisitaikyti prie Web 2.0 technologijų jas įtraukiant į mokymosi ir ugdymo procesus. Po daugiau nei dešimtmetį trukusios evoliucijos, virtualios mokymosi aplinkos (toliau – VMA, angl. Virtual Learning Environments), kurios šiuo metu yra daugelio e. mokymuisi pritaikytų programų pagrindas, pasiekė savo maksimalų veiksmingumą.

Web 2.0 paslaugų atsiradimas ir plėtra buvo prielaida naujo edukacinio modelio, kuris leidžia vartotojams pasirinkti mokymosi turinį pagal savo individualius poreikius, bendrauti, dirbti kartu ir galiausiai veikti internetinėje aplinkoje, kuri yra laisvesnė lyginant su instituciniais studijavimo apribojimais. Atsižvelgiant į tai daroma išvada, kad susiklosčiusios aplinkybės lemia naujos praktikos, kuri savo ruožtu susijusi su naujų technologinių priemonių plėtra ir diegimu, poreikį.

Vis daugiau mokslininkų tyrimo objektu pasirenka VMA ir suvieniję pastangas siekia pakeisti ir (arba) papildyti VMA Web 2.0 technologijomis, stengdamiesi sukurti asmenines mokymosi aplinkas (toliau – AMA, angl. Personal Learning Environments), pritaikytas prie studentų poreikių.

AMA yra asmeninės sistemos, aplinkos, kuriose sukauptos priemonės ir išorės paslaugos (dažniausiai Web 2.0), leidžiančios vartotojams pasirinkti ir kurti asmeninių žinių tinklą savo poreikiams tenkinti. Taigi AMA atspindi reikšmingą pereinamąjį vartotojų autonomiškumo laikotarpį.

Akivaizdu, kad AMA plėtra kelia nemažai praktinių problemų, kurioms išspręsti reikalingos ne tik žinios, bet ir technologiniai įgūdžiai. Žinoma, AMA galima sukurti naudojant keletą paprastų priemonių, pavyzdžiui, „pradžios puslapius“ (angl. start pages). Jų naudojimas leistų net ir neįgudusiems vartotojams sukurti daugelio parametru, turinčias įvairių priemonių ir įrankių AMA. Ypač tai darosi aktualu kalbų mokymosi procese, kuriame AMA užtikrintų studentų bendravimą su gimtakalbiais ir natūralių sąlytį užsienio kalbų mokymosi procese.

Šiame straipsnyje pateikiama „filosofinė“ AMA koncepcija kartu su praktiniais patarimais dėstytojams, kurie yra suinteresuoti AMA kūrimu. AMA kūrimo užsienio kalbų mokymosi tikslais galimybės pristatomos pasitelkiant dvi skirtingas programines įrangas: SymballoEDU ir Netvibes

**Raktažodžiai:** asmeninės mokymosi aplinkos, PLE, kalbų mokymosi technologijos, Web 2.0, Netvibes, SymballoEDU.