

THE PERSONAL LEARNING ENVIRONMENT - A SYMBOL OF THE CHANGING LANDSCAPE OF EDUCATION IN THE TWENTY FIRST CENTURY

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Abstract: With the advent of the Information Age and the accompanying technological boom, the field of education has been experiencing a major shift in how, where and when learning takes place, with the focus moving from teacher-centered to student-centered learning, and learning that can happen at any time and in any place. This article will discuss how Personal Learning Environments have made these changes possible, the importance of creating one's own PLE, and, will provide information on how to design a PLE. This topic merits a more in depth study that can be offered here.

Keywords: Personal Learning Environment, Web 2.0, Twenty-first century education.

Background

A Personal Learning Environment (PLE) is the tools, sources of information, connections and activities that individuals use to learn (Adell & Castañeda, 2010).

Personal Learning Environments (PLE) have been around for centuries and we each have our own PLE whether we recognize it or not. There always have been places and people that scholars have sought out when searching for answers, such as medicine men, colleagues, conferences, books, scientific journals. A powerful example is the 1927 Fifth Solvay International Conference on Electrons and Photons which brought together 29 of the top physicists in the world to share their findings around electrons and photons.



1927 Fifth Solvay International Conference on Electrons and Photons - 17 of the 29 attendees were or became Nobel Prize winners

Source: <http://rarehistoricalphotos.com/solvay-conference-probably-intelligent-picture-ever-taken-1927/>

The formal PLE concept came into being during the first decade of the twenty first century, an offshoot of the blossoming of the Information Age which was ushered in by the Digital Revolution that began somewhere between the late 1950s and the late 1970s. The Information Age is founded on the evolution of technology, including the mass production and widespread use of computers, cellphones and the Internet which has led to the modernization of information and communication processes. “Personal learning environments (PLE) represent a groundbreaking new development in educational practices through the incorporation of Information and Communications Technology (ICT)” (Saz, Engle, & Coll, 2016, p.1)

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How educational curriculum is designed and presented has changed as a result of the Information Age and the accompanying development of Web 2.0; and PLEs are a direct offshoot of the evolution of this new technology of digital tools that offer the resources, structures and means of communication that have made PLEs so influential in the educational process of the twenty first century. PLEs are a direct result of the arrival and evolution of Web 2.0. “These structures are highly adaptable to the needs of learners and enable them to actively become part of a learning community or target language community” (Alm, 2006, p. 2).

Teachers nowadays prepare their lessons based on the use of ICT's, software and applications that contain learning tasks which are more authentic and personalized. How they interact with students has improved as well. Web 2.0 enhances the learning process due to the social aspects and

technological tools which let students learn in their preferred modality. Social networking tools such as Facebook, Twitter, Youtube, and Blogs, let teachers and students communicate in real time and in real settings, allowing them to express their feelings, thoughts, ideas, and more.

Furthermore, Grosseck (2009, p. 478) in her article describes that “of the advantages of using Web 2.0, the more important among them are the reduction of cost, easier and faster access to information, sharing accumulated experiences, create digital content with the major focus on didactic innovation.” It is essential to put into practice the tools of the Web 2.0 in the teaching process in order to obtain these benefits and to catch our students’ attention and motivate them to learn whatever subject or topic they wish to.

For the reasons mentioned above, Web 2.0 has greatly impacted the learning process. Therefore teachers and students have to be aware of its importance and the need to stay current in the application of these technological tools. Finally, the

Web 2.0 is one of the most important parts of PLE, due to its relevance to how students receive, process and share information. Hence, it is essential to actively participate in this huge change in technology that began during the last several decades at the beginning of the Information Age.

Impact of PLEs on Education

So how has the Information Age influenced the changes in how we teach and how we learn that we are currently experiencing? The very availability and ease of accessibility of user devices and the Internet has forced us to take a closer look at how information is being acquired and used since the beginning of the twenty first century. This has resulted in the formalizing of the process, giving it the official name of “Personal Learning Environment” or PLE. During the past decade there has been a lot of discussion and research around the PLE.

Traditional Learner	21 st Century Learner
• Sit and get	• Move, experiment
• Learner as receptor	• Learner as initiator
• Expectations same for all	• Student navigates choices
• Product oriented	• Process & product oriented
• Teacher tells	• Student constructs meaning
• Paper/pencil driven	• Technology enhanced learning; multi media driven
• Explicit directions	• No limits
• Isolated learning; private	• Shared globally; collaborates
• Compliant	• Problem solver
• Answers are primary	• Questions are primary
• Closed system	• Open system
• Stayed the same	• Changes constantly
• Knows facts	• Inquirer
• There is a right way	• No right way
• Wait for results	• Immediate gratification

By Facebook/LikeToWrite

Source: https://www.google.com.ec/search?q=chart+to+compare+traditional+learner+and+21+century+learner&rlz=1C1KMZB_enEC568EC620&espv=2&source=lnms&tbn=isch&sa=X&ved=0ahUKewja0dz7t7PTAhVL4CYKHcpBg4Q_AUIBigB&biw=1511&bih=708#imgrc=qmWs2qMNHQi5uM

What is a PLE?

A Personal Learning Environment is a new way of learning which can be used in the classroom and for the professional development of the teachers. Before the arrival of the Internet we learned from colleagues, by attending conferences, by reading scholarly books and by subscribing to journals. Now we have access to an exorbitant amount of information which we find necessary to organize, resulting in the development of a PLE. According to Castañeda & Adell (2013), a PLE consists of three parts:

1. Where we access information: the activities, tools and resources connected to the search, acquisition, management, use and administration of the information.
2. How we create and subsequently share information: the practices, tools and resources connected to the modification, creation and dissemination of information through multiple ways.
3. Who we connect with – our Personal Learning Network: the activities, tools and resources used to communicate and collaborate with others who learn from us and from whom we learn.

Attwell (2007) posits that Personal Learning Environments are the future of education. Education is challenged not by the development of technology, but by the ways in which people – especially the younger generations – are using these technologies to learn, to communicate and to share knowledge via online social networks and communities. It can be said that the processes and functions encouraged by PLEs reflect the new approach to education. The chart that follows is an excellent, though brief, comparison of the two.

Why Adopt PLEs?

The youth of today primarily learn by being interactive. They are already comfortable with digital technology and are connected to a variety of social networks. A personal learning environment increases their motivation and allows them to satisfy their curiosity by creating a situation where they can control their own learning at their own pace, as well as design their own learning strategies. Learning then becomes more student-centered where all students have access to a variety of learning resources. As students assume greater responsibility for acquiring, processing and sharing information, the role of the teacher becomes one of providing them with critical thinking skills to

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assess the information, with introspective skills to work with it, and with social skills to share what they create. Teachers can support their students in the classroom by helping them recognize and organize their PLE as well as by familiarizing them with the many digital sources available.

We, as teachers need to use multiple means of communication in order to encourage our students to learn and to be the researchers of their own knowledge. This is the main point of PLE, since by using this method they will have a better opportunity to discover the information they need, to organize it and finally to share their findings with people who are interested in the topic they share. Teachers should also lead the way in the design of teaching strategies that promote knowledge building, the type of learning based on the connectivism and sociocultural perspective which sees learning as a process of constructing knowledge which is social and shared (Bell, 2011).

Teaching How to Create a PLE



When first introducing students to the concept of the Personal Learning Environment it is helpful to share several different models with them to explain it, giving them an idea, through examples, of the shape and components of a PLE. Each student's rendition will be unique, but should address the various parts of the learning environment. A model will narrow down their options, provide direction, and make the creation process more methodical. There are innumerable models out there, but here are three that you can share, allowing the students to initially begin the construction of their PLE using the one they most resonate with according to Milligan et al (2006) as cited in Malamed (n.d.).

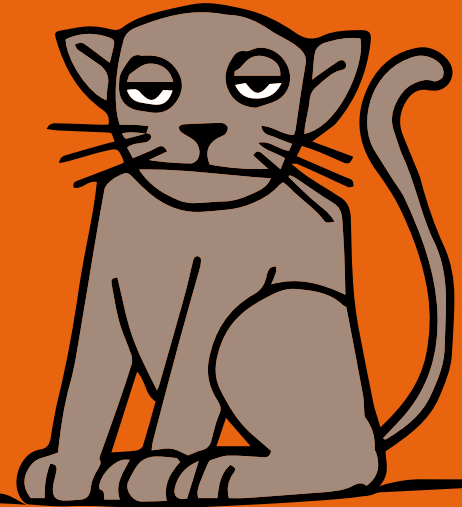
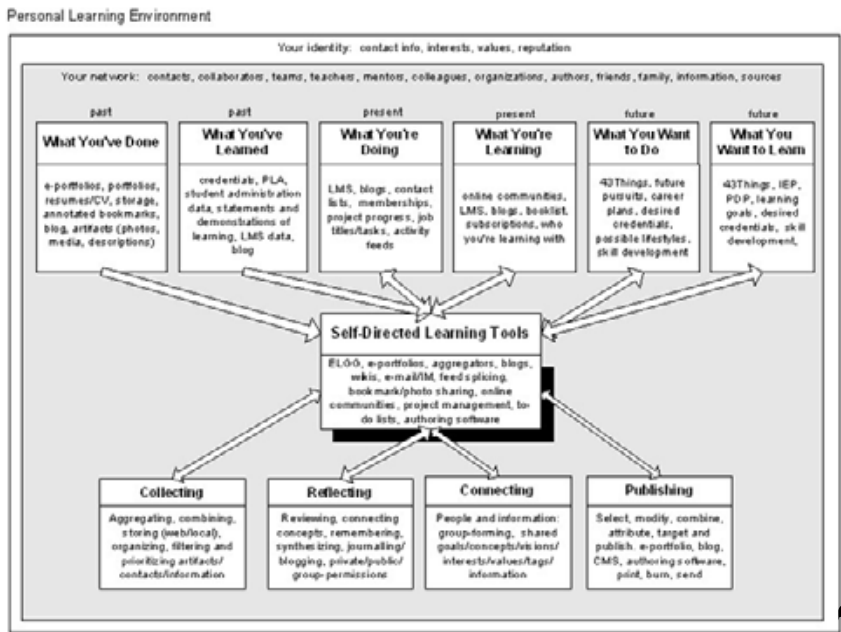
Source. Eduardo Orellana

A generic model based on Milligan's description of a PLE as a construct that uses tools that allow the learners to learn with other people, control their learning resources, manage the activities they participate in, and integrate their learning.

The PLE created by Jeremy Hiebert includes past, present and future learning and consists of:

- Collecting: aggregating, storing, organizing and filtering contacts, artifacts and information.
- Reflecting: reviewing, connecting concepts, synthesizing, blogging, working in groups.
- Connecting: people and information, group-forming, shared goals, interests and information.
- Publishing: select, modify, combine and publish; e-portfolios, blogs, etc.

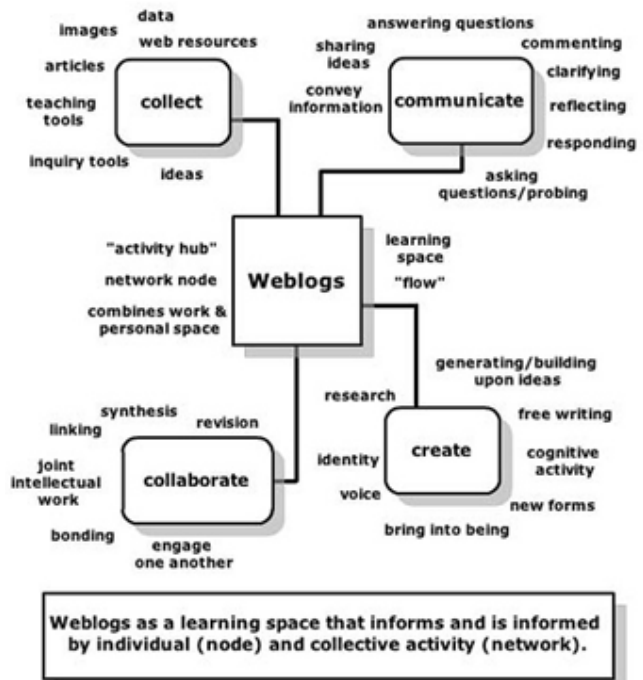




Source: https://www.google.com.ec/search?q=personal+learning+environment+Milligan&rlz=1C1KMZB_enEC568EC620&espv=2&source=lnms&tbn=isch&sa=X&ved=0ahUKEwi0_5b-NxLPTAhXHYYKHTicDI4Q_AUIBigB&biw=1511&bih=708#imgrc=qf4DZ_f91emJjM

In the Four C's model by Chris Sessums the blog is the personal learning activity hub and includes the following main activities:

- **Collect:** gather articles, tools, data, images and resources.
- **Communicate:** share ideas, convey information, ask questions, reflect, respond, comment, and clarify.
- **Create:** generate ideas, research, write, and bring content into being.
- **Collaborate:** synthesize, work with peers, and engage one another.



Source: https://www.google.com.ec/search?q=personal+learning+environment+chris+sessums&rlz=1C1KMZB_enEC568EC620&espv=2&source=lnms&tbn=isch&sa=X&ved=0ahUKEwjL-b6PxbPTAhXFeSYKH-QtjAwwQ_AUIBigB&biw=1511&bih=708#imgrc=TIO_cYrN3o6kYM



PLEs are not just for students, but should be adopted by teachers as well. Morrison (2013) explains that creating one's own PLE will:

- Provide you with a framework that will help you expand your knowledge in your areas of expertise, as well as in teaching and instructional methods that are and will be appropriate and relevant for the digital era.
- Help you stay relevant in your fields as well as provide you with the opportunity to learn how to use tools that will enhance instructional methods as your role as instructor continues to change – with the learner moving to the center of the learning model.
- Help you respond and adapt from a position of knowledge and understanding to the new tools, devices and applications, along with the easy access to the Internet, which are changing how we teach and learn.

Morrison (2013) points out the importance of having a PLE has distilled from several resources the following steps to creating a PLE.

Decide on which areas to focus on.

Determine which Web 2.0 tools to use to achieve the elements of your PLE.

Create a diagram of your PLE.

Remember that developing a PLE takes time, and once created it will continue to change as learning needs and goals change.

Real Life Applications in the Classroom

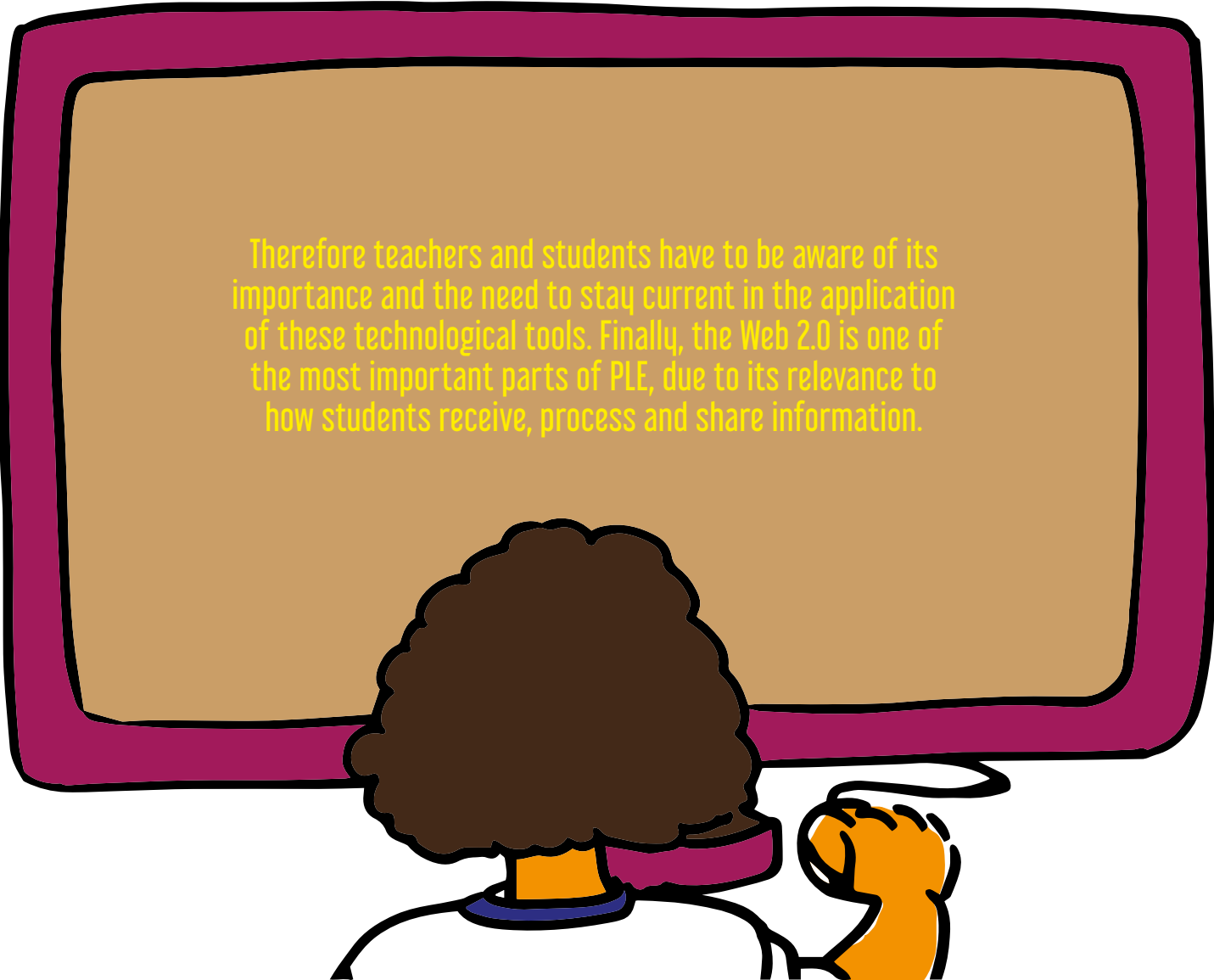
The International Baccalaureate program at the Unidad Educativa Juan Bautista Vázquez has been using the concept of PLEs for the past three years. Several case studies are presented demonstrating how PLEs have been applied in various ways.

The implementation of the PLE concept has hugely facilitated the learning process of the IB students during the last three years. As students demanded more comprehensible and meaningful information, there was an urgent need to switch from traditional teaching methodologies. They wanted to understand what they learn, where they learn, how they learn, and who they learn with. PLEs have helped them to better assimilate what they are learning. The following examples reflect how we have brought the PLE into the classroom.

The first application was giving the students the task of designing a PLE in groups, once they were introduced to the concept and the elements of PLEs.



Source: Jefferson Guamán



Therefore teachers and students have to be aware of its importance and the need to stay current in the application of these technological tools. Finally, the Web 2.0 is one of the most important parts of PLE, due to its relevance to how students receive, process and share information.

The second application was using the social network Facebook. A page was created with the name of *JBV International Baccalaureate* which can be accessed going to this link <https://www.facebook.com/JBV-International-Baccalaureate-1055046447924137/?ref=bookmarks> which has facilitated the implementation of the various components of PLEs. Al-Zoube (2009) explains that Facebook “enables developer to produce a learning context as simple as building a Facebook entry for a class and then associating a number of Facebook applications with the context” (p.2). The students were able to access information through reading and listening activities on Facebook. For instance, web pages, such as News in Levels, were posted and students performed assigned tasks

after accessing them. On this website students can read articles, watch videos, and work on comprehension tasks about current and real news.. At the moment they perform these activities, they are learning in a meaningful way. They can publish their answers, sharing with their partners, who then reflect on each other’s work.

The third application was using the Google Docs app with the purpose of enhancing their writing skills. Graham (2013) suggests that Google Docs creates a rich collaborative classroom environment where a document can be viewed, edited, and published by students and/or teachers. As students are required to improve their writing of different text types, Google

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blogspot.com/2017/04/my-neighborhood.html (Israel Gualpa, 2017) <http://thebignneighborhood.blogspot.com/2017/04/neighborhood-if-you-think-in.html> (Frank Lojano, 2017) <http://mycommunityisnice.blogspot.com/2017/04/the-community-its-neighborhoods-and.html> (Janina Astudillo, 2017).

The fifth example was the application of the YouTube tool. The students had to produce a video on how to prepare their favorite dish. They collected recipe information on the ingredients and process for preparing their selection from internet web pages and people. This activity was performed in pairs because one student recorded while the other one cooked. The use of special effects provided a touch of originality to their videos. As a final step they uploaded their completed video to a YouTube page in order to share it with others.

Docs enables them to practice using extensive academic texts such as comparison essays, which were produced in groups of three students. They followed the five steps of writing based on Mangelsdorf and Posey (2013). At the beginning, students explored choices analyzing the purpose of writing and the possible readers. Then they wrote the first draft together simultaneously. When they finished the essay, they revised it for clarity of ideas. To complete the editing part, the students shared their document with other students asking them to check for grammar, spelling, and punctuation. Finally, they published their final product, sharing it with the whole class.

A fourth application was using the Blogger. Students had to write a blog about "Community," the topic we were studying at the time. To start, they accessed Google and Wikipedia in their many forms to collect reliable facts in order to create their blogs. After having gathered enough information, the students wrote their texts following specific formats, but showing great creativity and imagination in their writing style. They published their blogs on the school's Facebook page so they could receive partner and teacher comments. Examples: <http://israelgualpa1>.



Access these sites to enjoy some examples:

<https://www.youtube.com/watch?v=t2ZuSv2ToiM&-feature=youtu.be> (Andres Paيدا & Israel Guallpa, 2017).

<https://www.youtube.com/watch?v=HQbro1w-jh1A&feature=youtu.be> (Jefferson Guamán & Javier Guamán, 2017)

<https://www.youtube.com/watch?v=MQlaFCnu-Z0o&feature=youtu.be> (Eduardo Orellana, 2017)

These applications have been held using PLE models where the students have understood what they learned because they collected, created, and shared the knowledge. This information has been acquired in a significant way and the way my students liked and enjoyed it.

Conclusions


PLEs are here to stay. Although there is no definitive description of PLEs as yet, they are one educational trend that continues to be talked about and implemented on all levels of education. With the continued advancement and expansion of the Web, the development of new learner-centered methodologies that incorporate PLEs, and the application of PLEs in other areas outside of education, this is a concept that will continue to be used.

REFERENCES


- Alm, A. (2006). CALL for autonomy, competence and relatedness: Motivating language learning environments in Web 2.0. *The JALT CALL Journal*, 2(3), 29-38.
- Al-Zoube, M. (2009). E-Learning on the Cloud. *Int. Arab J. e-Technol.*, 1(2), 58-64. Retrieved from http://www.iajet.org/iajet/iajet_files/vol.1/no.2/E-Learning%20on%20the%20Cloud.pdf
- Attwell, G. (2007). Personal Learning Environments-the future of eLearning?. *Elearning papers*, 2(1), 1-8. Retrieved from <http://digitechitalia.pbworks.com/w/file/etch/88358195/Atwell%202007.pdf>
- Bell, F. (2011). Connectivism: Its place in theory-informed research and innovation in technology-enabled learning. *The International Review Of Research In Open And Distributed Learning*, 12(3), 98-118. Retrieved from <http://www.irrodl.org/index.php/irrodl/article/view/902/1827>
- Castañeda, L. & Adell, J. (Eds.) (2013). Entornos Personales de Aprendizaje: claves para el ecosistema educativo en red. Alcoy: Marfil.
- Graham, M. (2013). Google apps Meets Common core. Retrieved from https://books.google._2L1z&sig=IjY1keSNRtsoCQ6Sa7SqoB3Tw5g#v=onepage&q&f=false
- Grosbeck, G. (2009). To use or not to use web 2.0 in higher education?. *Procedia-Social and Behavioral Sciences*, 1(1), 478-482.
- Malamed, C. (n.d). Models for Designing your Personal Learning. Retrieved from <http://theelearningcoach.com/elearning2-0/designing-personal-learning-environment/>
- Mangelsdorf, K. & Posey, E. (2013). *Choices a Writing Guide with Readings: The Writing Process*. New York, NY: Bedford/St. Martin's.
- Milligan, C., Phillip, B., Johnson, M., Sharples, P., Wilson, S. & Liber, O. (2006). Developing a Reference Model to Describe the Personal Learning Environment in Lectures Notes in Computer Science. 4227 (506-511). Retrieved from https://sci-hub.cc/10.1007/11876663_44
- Morrison, D. (2013). How To Create a Personal Learning Environment to Stay Relevant in 2013. Online Learning Insights. Retrieved from <https://onlinelearninginsights.wordpress.com/2013/01/05/how-to-create-a-personal-learning-environment-to-stay-relevant-in-2013>
- Saz, A., Engel, A., & Coll, C. (2016). Introducing a Personal Learning Environment in Higher Education. An Analysis of Connectivity. *Digital Education Review*, 29, 1-14

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“Desde las alturas observo los rostros de los hombres con sus lágrimas, también veo sus corazones y sus cicatrices. En cada ser hay sufrimiento, esperanza y valor. Todos merecen ser felices, yo aletearé eternamente mis alas para irradiar la alegría necesaria”.



“Desde el suelo puedo observar cada una de las plantas, por eso afirmo que no hay dos flores idénticas y todas decoran el entorno. Su fragilidad es parte de su ser, el esmerar sus cuidados es respetar el equilibrio, es amar la vida”.