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Exploring the Potential Technology in Personalized Learning Environment (PLE)

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ABSTRACT

Background: This paper explores how technology in Personalized Learning Environment (PLE) has the significant potential to become the defining technology of the twenty-first century. PLE has recently come to the discussions as a potential instructional strategy to increase student success in the online environment, yet little research exists to confirm the effectiveness of personalized learning in an online environment. **Objective:** A study was conducted to examine personalized learning in the online environment to determine its effectiveness on online learning. **Results:** The paper also highlights technical environment in creating a PLE, how does PLE works and also the implications for teaching and learning. **Conclusion:** In conclusion, there is a need to focus the challenge of educators towards PLE adoption and integration of technology. Further research must be conducted for using technology to successfully accomplish personalization.

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INTRODUCTION

Technology can equip students to independently organize their learning process. Personalized learning cannot take place at scale without technology (Wolf, 2010). So, instead of being passive recipients of information, students using technology become active users. So, instead of being passive recipients of information, student that are using technology become active users. At the same time, technology transfers some responsibility for learning for students. Through online learning which provides increased access to course content, more scheduling flexibility and better access to alternative education choices and alternative media such as digital games and project based learning. Students also have the flexibility to direct their individual progress.

PLEs represent a shift away from the model in which students consume information through independent channels such as the library, a textbook or and Learning Management System (LMS), moving instead to a model where students draw connection from a growing matrix of resources that they select and organize. In this context, the PLE functions as an extension of the historical model of individual research. PLEs can promote authentic learning by incorporating expert feedback into learning activities and resources because they emphasize relationships. A PLE also puts students in charge of their own learning processes, challenging them to reflect on the tools and resources that help them learn best. By design, a PLE is created from self-direction and therefore the responsibility for organization and thereby for learning with the learner.

Personalized Learning Environment (PLE):

Education has only scratched the surface on personalizing the learner experience (Wolf, 2010). Yet nearly every other aspect of our technology enhanced culture allows for personalization and customization. Personalization is the norm and not the exception and students now expect personalization in most aspects of their lives (Wolf, 2010). PLEs appeared as “a new construct in the e-learning literature which finds its support on social media and steadily gains ground in the e-learning field as an effective platform for student learning” (Dabbagh & Kitsantas, 2012). The concept of Personalized Learning Environments or “PLEs” is perhaps the most closely aligned technological framework to date for facilitating personalized learning. EDUCAUSE defines a “PLE” as “tools, communities, and services that constitute the individual educational platforms that learners use to direct their own learning and pursue educational goals” (Educause, 2009). The 2012 Horizon Report also describes Personalized Learning Environments as those that enable learners to “determine the style

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and pace at which they learn while exposing them to technologies that they may not otherwise encounter in traditional classroom settings” (Johnson, Adams, & Cummins, 2012)

Personalizing learning starts with the learner. It is not personalized instruction. The teacher, the school, and textbook companies can individualize instruction for the different types of learners. Personalized learning means the students drive their learning and the teacher IS the guide on the side, the co-designer of their learning, and more of a facilitator to make sure the students is meeting their learning goals. PLEs consist of a wide range of connections with both digital and no digital resources. They blur the lines between formal and informal learning. And precisely because they are individualized to the needs and interests of the learner, each one can look completely different.

Each learner is unique and learns in different ways. Differentiating instruction means that the teacher adapts the existing curriculum to meet the different needs of each student in their classroom. The teacher becomes the hardest working person in the classroom. Individualize means that the teacher and textbook companies have to create multiple levels of curriculum to meet the different needs of all students. This means that you pay more to textbook companies to prepare the curriculum or you find multiple ways to teach a content area that meets the varied learning styles and reading levels in their classroom.

Despite attempts by institutions of higher education to harness technology to facilitate learning through online courses, college students more frequently drop out of online courses than they do traditional, face-to-face courses (Hart, 2012). The learners are less likely to drop out of online courses when they are satisfied with the courses and when the courses are relevant to their lives (Park & Choi, 2009).

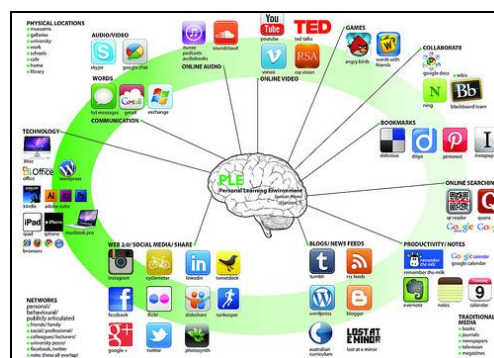
Creating A Personalized Learning Environment (PLE):

From a first perspective, Barroso *et al.* (2012) include authors such as Fiedler & Pata (2009), Amine (2009), Reig (2009) or Henri, Charlier & Limpens (2008) as the ones who consider PLEs a self-defined collection of resources, services, tools and devices which can help teachers and students shape their personal learning and knowledge networks.

Below are guidelines gleaned from the resources collected which have been compiled into four steps. However, by the nature of PLEs, the personalized dimension means that each diagram of an individual's environment will be unique.

1. Decide on upon areas of focus: establish personal goals for learning. A PLE is holistic, and can include professional and personal interests.
2. Determine which tools to use: A PLE requires use of Web tools and applications to create a personal and virtual learning space. A PLE is also dynamic—the learner is an active participant and doing the three key functions: Collect and curate relevant content, resources into a meaningful collection in a virtual space, Construct and create to develop new knowledge and understanding. This could be through blogs, Slideshare presentations, Wikis etc. Sharing is inherent to a PLE where learning does not happen in a vacuum, but involves communicating with others. Another phase in a PLE is collaborating, working with peers to create new knowledge through digital objects, documents, etc. Start slow, it takes time to learn a new application and build and develop content and resources.
3. Establish time each week to developing the PLE. It takes time to develop and grow a robust PLE.
4. Create a diagram of the PLE. The purpose of the diagram is to provide a framework for learning goals, identify tools and provide a digital footprint and record of the PLE.

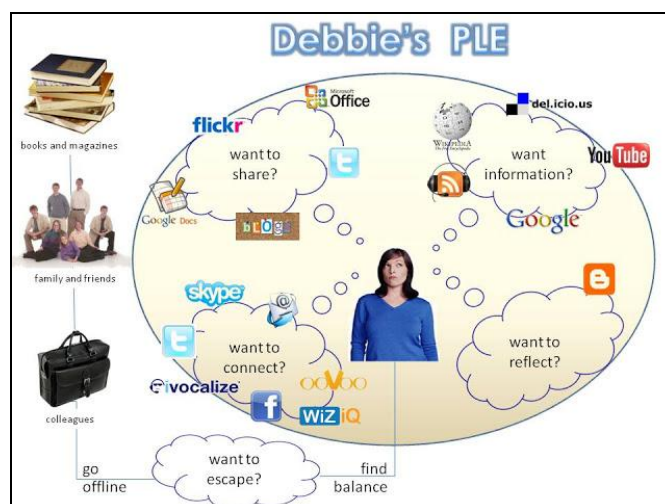
sFigure 1 shows one of the diagrams in Personalized Learning Environment (PLE) that created by Janson Hews.



(Source: <http://onlinelearninginsights.wordpress.com/2013/01/05/how-to-create-a-personal-learning-environment-to-stay-relevant-in-2013/>)

Fig. 1: Diagram of Personalized Learning Environment (Janson Hews, 2013)

Figure 2 shows one of the diagrams in Personalized Learning Environment (PLE) that created by Debbie.



(Source: <http://rethinkinglearning.blogspot.com/2010/12/my-personal-learning-environment-as-i.html>)

Fig. 2: Diagram of Personalized Learning Environment (Debbie, 2010).

1. How Does PLE Work?

As instructors and instructional designers move towards personalized learning with hopes of increasing learner motivation and ultimately learner achievement, research on best practices for using technology to successfully accomplish this must be explored because in its current state, the research on these areas is limited (Davis, 2011). And it is not clear what technology should be used for in regards to personalized learning. While some suggest technology can be used to give students total control over their learning, others suggest that personalized learning is not about giving students total control, suggesting that the role of the instructor is still vitally important (Davis, 2011; Martinez, 2001). According to some researchers, a “teacherless” environment should never be the goal, however a focus on learner interests should be increased (Davis, 2011).

According to Miliband (2006), there are five phases of personalized learning:

1. Assessment phase – Teacher and students work together in a formative manner to identify strengths and weaknesses.
2. Teaching and learning phase – Teachers and students select learning strategies.
3. Curriculum choice phase – Student chooses the curriculum, creating a pathway for student choice.
4. Radical departure from typical education models phase – Built on student progress, this phase provides teachers the flexibility to choose their own teaching strategies.
5. Education beyond the classroom phase – Using social and community connections, students personalize their surroundings (with the help of the teacher, when needed) to create their ideal learning environment.

2. The Implications For Teaching And Learning:

The concept of the PLE marks a fundamental change in the role resources such as people and media that plays in teaching and learning. In an environment where information is ubiquitous and needs only to be located, there is greater premium on skills that support fast and accurate access to information and on the ability to assess that information. In this regard, teaching is less a matter of data transmission and more a collaborative exercise in collection, orchestration, remixing and integration of data into knowledge building. The goal for the student shifts from a need to collect information to a need to draw connections from it which is to acquire it, disseminate it and collaborate in its use. Furthermore, the use of PLEs may herald a greater emphasis on the role that metacognition plays in learning, enabling students to actively consider and reflect upon the specific tools and resources that lead to a deeper engagement with the content to facilitate their learning.

3. Challenges To Overcome:

Integrating technology into education practices has proven to be a slow and complex process. In fact, it can take four or more years from time new technologies are first introduced to the point when changes can be observed in students. To date, the most prevalent barriers to successful integration include organizational support, teacher attitude, expectations and technology itself.

- *Do not support the specific used of technology and culture:*

Basically, technology is not aligned with a school district's vision, mission and curriculum. As a result, there is no place to provide consistent access and the use of technology among students. Besides that, using the technology is to support student-centered learning which requires leadership, administration and the community to collaborate and set an agenda for technology that reflects local needs, set of learning standard and connect students to real-world audiences.

- *Lack confidence in technology as well as their technology skills:*

According to a National Center for Education Statistics study, only 23 percent of teacher's surveyed feel prepared to integrate technology into their instruction. Most teachers use the technology to present information rather than to provide hands-on learning for students. Some are unclear about policies governing the use of technology. Others are uncomfortable with investing instructional time to deal with possible equipment failures or slow internet access. Clearly, more of an investment in technology training and technical support needs to be factored into funding and resource allocation.

Conclusion:

Personalized Learning Environment (PLE) is not an application but rather a new approach to the use of new technologies for learning. There remain many issues to be resolved. But, at the end of the day, the argument for the use of PLE is not technical but rather is philosophical, ethical and pedagogic. PLEs provide learners with their own spaces under their own control to develop and share their ideas. Moreover, PLEs can provide a more holistic learning environments, bringing together sources and contexts for learning hitherto separate. Students learn how to take responsibility for their own learning. Critically, PLEs can bridge the walled gardens of the educational institutions with the worlds outside. In so doing learners can develop the judgments and skills or literacy necessary for using new technologies in a rapidly changing society.

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