Seamless Learning - Forget MOOCs, Mobile Learning, and Ubiquitous Access (Oct 13)

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“Seamless learning is still a new area, and the challenges are multiple. As this discipline merges the technological and human challenges faced by the emerging new technologies of the last decade (mobile learning, social media, MOOCs, etc.), it is becoming clear that the ultimate learning environment will have to provide a smooth learner experience, with options to both consume and create content. It is a bit of unexplored territory.”

Many of us are at or near the leading edge of online teaching and training today, yet we also struggle with optimizing the overall learning experience. A lot is happening: just-in-time mobile learning, performance support, internal and external massive open online courses (MOOCs), social media inside training strategies, and ubiquitous content delivery just to start naming the trends.

But with all these training technologies coming together, we face one major challenge: ensuring a smooth, easy training environment for all our learners. So let’s look at how we can create a seamless learning environment. Look at the various elements of seamless learning that I identify in this article, note what your training strategy covers, and identify the parts that you can optimize or add.

Background of seamless learning

Wong and Looi (see the References at the end of this article) provide a useful framework for seamless learning. They based their framework on an analysis of literature about MSL (mobile-assisted seamless learning) published between 2006 and March 2011. From that analysis, they identified 10 features that characterize the seamlessness of a WMUTE design (Wireless, Mobile, and Ubiquitous Technologies in Education). Admittedly, these characteristics are aimed at mobile learning, but I will match some of the characteristics they mentioned, and will address additional points of interest, opening up seamless learning for mobile, as well as online learning.

The idea behind the MSL framework is to come to a set of characteristics that, when addressed, will result in seamless learning. Wong and Looi listed 10 characteristics:

- (MSL 1): Encompassing formal and informal learning
- (MSL 2): Encompassing personal and social learning
- (MSL 3): Across time
- (MSL 4): Across locations
- (MSL 5): Ubiquitous access to learning resources
- (MSL 6): Encompassing physical and digital worlds
- (MSL 7): Combined use of multiple device types (tech)
- (MSL 8): Seamless switching between multiple learning tasks
- (MSL 9): Knowledge synthesis (prior knowledge, new knowledge, multidisciplinary learning)
- (MSL 10): Encompassing multiple pedagogical or learning-activity models (facilitated by teachers)

Although the Wong and Looi framework was my starting point for this article, I merged some of the characteristics, and I added a few more dimensions (e.g., lifelong learning, self-directed learning, durability, privacy, and collaborative learning). Embedding these in an overall corporate or institutional strategy supports seamless learning for both mobile- and non-mobile-device learners. An optimal combination will allow the learner to swiftly move throughout the learning environment with their preferred learning tool (mobile or not), and to comfortably find their way through all the learning activities as the environment adapts and logs the learner’s activities.

Adding lifelong learning to encompass formal and informal learning

As soon as mobile learning began emerging, it became clear that it offered an opportunity to connect learning across formal and non-formal settings (see Quinn in References). Inquiry learning in the classroom, in the training center, or in the workplace could continue in realistic settings. As such, it is crucial for any learner, including adult learners, to be able to identify and seize informal learning opportunities in order to fully build upon these experiences. It can be tough for learners to get the most out of informal learning, and to turn themselves into lifelong learners who are capable of keeping up-to-date with the changes in their field of expertise. In order for this to happen, learners must become aware of their actual informal learning. They must receive guidance toward improved learning via formal training offerings, and the training environment must push the learners to engage in authentic learning actions.

Embedding collaborative learning to encompass personal and social learning

Learning is no longer limited to the individual. Although some learners feel more comfortable absorbing new knowledge by themselves, a contemporary learning strategy should embed collaborative options: social media, peer expertise exchange, and provision of group actions from which everyone can learn. Options to connect with peers are increasingly important. Creating support for optimized individual learning (such as creating personal learning environments) is as important as collaborative learning and peer-to-peer learning in this networked world. A factor affecting personal learning, mentioned in MOOCs for example, is coping with the abundance of information. Coping with content and lots of information is a part of seamless learning because the capacity to do so affects effective learning.

Learning with a vengeance across time and space

The mobility of the learners combined with the current diffusion of technology results in training that takes place at any time and from any location. Mobile learning insights into just-in-time learning and augmented reality, as these become increasingly omnipresent, add a layer of significance to learning across space and time. However, this means learners must have multiple capacities in reaching those anytime, anywhere content spaces and using them efficiently.

Adding cloud-based learning to ubiquitous access of learning resources

Cloud computing more and more enables learners to access content from any location and at any time. By adding stable, cross-platform cloud-based solutions to a learning environment, seamless learning and ubiquitous access are easier because the company providing these tools is already testing them. Another option to ensure ubiquitous access to all the learning resources is to use a learning platform that combines both web-based and mobile options, which enables an integrated, ubiquitous, and seamless online learning environment. However, that option might demand a lot of extra development hours to keep all the resources and the environment ubiquitous and smooth.

Using cloud-based tools also has the potential to allow practitioners to provide mobile support to their learners’ endeavors, while offering similar functionality to non-mobile users via more traditional
computing platforms (see Ozdamli in References). In short, using cloud systems enables individuals to connect from their mobile devices or desktop computers depending on the learner’s preference.

**Supporting learning across context, encompassing physical and digital worlds**

The expansion of the physical world to include the digital world is important. Many learners can incorporate family members and friends, as well as teachers, colleagues, and peers in real-life situations to supplement the digital content they reflect upon. Due to the dispersed geographical location of many knowledge workers, there is not always that much physical contact available. Multiple contexts can also arise due to the mobility of the learners. The difference in contexts adds to the challenges of seamless learning, as these contexts can vary from high exposures to technology to limited technological exposure. It can also vary due to more- or less-professional experience with the topic. Nevertheless, the learners must be able to switch smoothly between their various physical realities and the digital worlds.

As such seamless learning becomes more important we must be able to manage learning amidst this diversity of contexts and realities. Learner support to provide guidance on how to cope with these contextual differences will relieve some of the anxiety that comes along with bridging physical and digital realities.

**Using multiple devices**

Wong and Looi describe the importance of switching between devices and contexts without losing focus or losing time finding where one left off as a learner, and how this is a necessary factor for a fluid learning experience. This seemingly small detail is a real challenge for the developers. They need to ensure that no matter which device is used, the learner finds their way around the training environment without losing any time. In addition, the learner must be able to see what he or she has learned.

There is another factor to learning across multiple contexts, which is the technological learner’s experience as she or he moves between these settings by using multiple devices. In addition, if a course is accessible for a multitude of devices, learners need digital skills to deal with multiple characteristics and affordances. In order for the learner to learn, she or he must be able to successfully tackle these challenges that affect their learning. Digital skills must be nurtured!

**Sharing learning objects between learners and switching between tasks**

The reality of being mobile also results in more frequent multitasking, where the learner is engaged in multiple tasks at the same time for a similar (or different) professional purpose. Switching between these tasks can result in information loss, or incomplete actions if the actual switching between tasks is not set in a seamless structure. There is also an additional challenge for seamless learning, which combines different contexts with collaborative learning and the creation of new knowledge ideas by the learner. In a fresh and up-to-date training environment, the learners have options for sharing insights, hence increasing the knowledge cycle within the corporation or institute. This means providing moments to share what is learned, and creating formal and informal learning options as mentioned before.

**Knowledge synthesis and learner-centeredness**

Merging mobile learning, MOOCs, and online learning overall brings additional complexity for knowledge creation based upon prior knowledge and expertise. Learning is no longer a linear process; it is a continuing iteration that links to prior knowledge, but that knowledge can then be modified after evaluating new information. In open, seamless learning spaces, learning can take place not only in private spaces individually, but also in public spaces collaboratively. The learner becomes an ever-more important actor in the overall process of learning and teaching.
Self-directed learning as part of multiple learning models

Learners must be encultured into becoming seamless learners. Successful implementation of seamless learning implies motivated instructors or teachers. It depends on the teacher’s ability to elicit what students have learned outside of the professional or educational setting and what they have learned informally, and to connect that learning to the formal. The groundbreaking researcher on adult learning, Malcolm Knowles (see References), mentioned that “it is no longer functional to define education as a process of transmitting what is known; it must now be defined as a lifelong process of continuing inquiry.” This is essential for knowledge workers. These self-directed skills must be developed and nurtured within the learning environment. Of course, one essential element for success is the learner’s own motivation to learn. It is not possible to expect successful learning without the learner’s active participation. This also has a bearing on the learner’s prior digital skills, such as the ability to work with different devices, comfort with social media, computer literacy, and so on.

The question of ethics and durability

Part of seamless learning requires collaboration and the exchanging of learning objects. If this involves large groups of learners, it raises issues of privacy and ethical considerations. Once learners share pictures, movies, or other identifiable artifacts from their professional contexts, it becomes difficult to ensure anonymity. However, anonymity of shared learning objects or artifacts is an important factor for continued trust. Trust needs to be made transparent in policies set up with the learners in seamless learning environments.

In order to build a durable learning environment, true learner participation in the creation of the environment itself becomes a consideration. This allows quick iterations that result in an improved training environment, based upon learner feedback. Participation must be taken seriously. Feedback that comes from examining short-lived learning experiences, such as user satisfaction surveys and strict comparisons of test measures, fails to provide comprehensive perspectives on learners’ meaningful experiences. We need longer-term evaluations.

Conclusion

Seamless learning is still a new area, and the challenges are multiple. As this discipline merges the technological and human challenges faced by the emerging new technologies of the last decade (mobile learning, social media, MOOCs, etc.), it is becoming clear that the ultimate learning environment will have to provide a smooth learner experience, with options to both consume and create content. It is a bit of unexplored territory. So feel free to tweet your seamless learning challenges as well!

References


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