Putting Learners in Charge:

Micro-Learning for ERP System User Adoption

by

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Executive Overview

Micro-learning is an extremely powerful method for learning how to use a new system. Yet, companies are struggling to implement it. Successful micro-learning relies on putting individuals in charge of their learning, and supporting them with appropriate technology and instructional design.

"Micro-learning" is a paradigm rapidly growing in relevance and importance among change management and learning professionals.

Most of us have experienced examples of "microlearning". For example, several mobile applications have short, elegant usage tip sheet presented directly on the screen, which explain in simple steps how to activate a new functionality. We immediately recognize "microlearning" opportunities surrounding us for the brief, appealing and rapidly consumed content, delivered with the right technology at the moment of need.

Micro-learning is aligned with major trends shaping technology innovation and learning, related to the widespread usage of mobility and the entrance of new generations in the workforce.

The purpose of this paper is to discuss the value and applicability of micro-learning in the context of learning a new ERP system.

- First, we will define micro-learning and provide observations on effective micro-learning content

- Second, we will discuss the challenges encountered when attempting to deploy micro-learning.

- Third, we'll experience a learning journey from the perspective of an individual, "Joe the Engineer"

- Fourth, we will review the technology considerations behind micro-learning

- Fifth, we'll discuss instructional design principles that fit the microlearning paradigm.

- And last, we'll review how companies can design an effective microlearning approach.

What is Micro-learning?

Micro-learning consists of small, quickly consumed information delivered repeatedly to generate permanent learning. Micro-learning breaks information into small, engaging bits that are easy to consume.

Learning content provided in this modality has three main characteristics:

1. **Informative and engaging:** Targeted, short, visually appealing messages are critical. Communication format will focus on short text, videos, and links. The goal is to create fun, engaging experiences that invite learning of new functionality or process.

2. **Timely consumed:** Short messages, repeated multiple times, are the key to effective learning and a cornerstone principle of micro-learning.

3. **Delivered anywhere, anytime:** Content is prepared to work on both mobile and non-mobile devices to reach a broad, often mobile audience. The right combination of synchronous and a-synchronous learning is calibrated for your unique situation.

Micro-learning Business Value

Micro-learning is an incredibly powerful tool to augment traditional learning such as Instructor-Led Training (ILT) or eLearning Programs.

Learning organizations and professionals are preparing to take advantage of informal learning. Some of the most frequent drivers for micro-learning are associated with:

- Efficiently sustaining competency over time. For example, learners who are already using a new system prefer to learn updates directly when they are in the system, rather than attending formal training.

- Overcoming resistance to traditional training. This is especially true in relation with the workforce generational shift. By 2020, 50% of the workers will be generation Y or millennials. These individuals are active learners and prefer to learn with snippets of information presented at the moment of need, possibly shared with friends, classmates, co-workers.

Companies at the forefront of the new learning trends are currently experimenting with micro-learning and proving the value of this new approach.

The following examples show how micro-learning is applicable in companies while deploying a new or more advanced Enterprise Resource Planning (ERP) system.

The first example is a telecommunication company with a large number of engineers dispersed around the world. These engineers are focused on developing the core business, and interact only infrequently with the ERP system, to enter their time or to report their expenses. Micro-learning videos, cue cards and brief instructional documents are considered essential to augment the traditional learning strategy.

At the heart of this approach is the goal of making learning really simple, intuitive, consumed by users at the moment of need – and pair it with traditional learning to boost effectiveness. In this context, the availability of prepared super-users played a very important role, as they continue to be the go-to people for users that appear to struggle with the new process or application. Also, data from the system – for example time or errors associated with a transaction – is used to identify and quickly correct proficiency.

In this second example, a retail company in the process of deploying a new ERP system struggles with the idea of formal, Instructor-Led Training programs. The culture of the company is innovative, rapidly growing, fast paced. In this context employees resisted the idea of having formal, lengthy Instructor-Led training. When it was announced the use of micro-learning a surge of approval arose: this approach was considered appealing to employees in this culture and helpful to reduce resistance.

In the third example, a large oil and gas company is transitioning to a new, cloud-based learning management system. They need to educate over 100,000 employees around the world in using the new tool.

While the tool interface is user-friendly, there's still a need to disseminate information and ensure the process is understood. There are multiple, diverse requirements around tracking learning, in some cases quite stringent, for example when it comes to compliance and security.

The company sees in microlearning a way to complement their more traditional, formal learning plans, and to reach out to all individuals affected by the change. Also, they need to make sure their learning technology is supportive of how their learners are receiving information.

Their workforce has PC, tablets, mobiles, and in some cases just kiosks. They need to evaluate how to best deploy micro-learning in the various modalities.

Challenges in Implementing Micro-learning

We have seen the value and appeal of micro-learning among learning professionals and companies. Yet, implementing effective micro-learning can be a challenge.

This is true for micro-learning as well as for any "informal learning" method. The U.S. Bureau of Labor Statistics estimates that nearly 70% of all workplace learning occurs informally. However, statistics also show that organizations are still spending primarily on formal learning programs.

The implementation of micro-learning presents specific challenges:

1. **Micro-learning strategy stakeholder support and buy-in:** leaders and executives understand the value of micro-learning. There are concerns, however, on the real value and how to translate this type of learning into performance, and performance into business advantage. In some cases there's also the perception that micro-learning is the equivalent to watching a "YouTube" video – just a trend, great to learn a few tricks in personal life but unsuitable for complex topics.

    a. However, experience in education is showing otherwise. Khan academy is the most famous example of how micro-learning is superbly effective to explain even complex topics like algebra, art, science to K-grade students. Khan originally created these videos in order to help a family member. These became rapidly popular among high-school students and now they are leveraged extensively in K-grade education.

2. **Deployment considerations:** Consumption of micro-content can be via PC, mobile, tablet. Content needs to be formatted appropriately to fit a computer screen or a smaller screen. Some delivery options, for example via PC, allow more interactivity. For mobile, short videos work better. This increases exponentially the types of output and development options needed. Also, when learning a new ERP system, having the content directly integrated in the ERP screen dramatically increases the effectiveness of micro-learning. As with all learning methods, content still needs to be hosted and periodically maintained.

3. **Effective content creation:** Creating "micro" content requires adapting complex topics and breaking the information into meaningful, short and digestible snippets. This is different than simply "shredding" the content in pieces. It requires creating a relevant, compelling, engaging experience. In the next paragraphs we will review some of the keys to make content creation successful.

4. **Performance measurement:** This challenge is not unique for micro-learning, but it is specifically important because of the nature of this learning. Learners acquire knowledge at their own pace, rather than at the pace of the instructor or at the times required by a program rollout. In a traditional/formal environment, we'd roll out ILT or e-Learning, and then rely on a combination of surveys, quizzes, and follow-up after training for performance measurement. In a micro-learning context, learners deal with the new concepts at their own pace, over an unpredictable amount of

time. In the example of the oil and gas company mentioned above, how do we measure that all 100,000 employees know how to use the new learning management system? Current technology is making it possible to measure the actual task performance, directly from the system. If the learner is able to enroll in courses, if they complete the transaction in time, if the number of errors or missed transactions is low, we have an indication that the learners' community has reached the desired proficiency.

A "Micro" Learning Journey: Joe the Engineer

Micro-learning puts the student at the center of the learning experience. Micro-learning relies on the idea that the learner is in charge and motivated to acquire new competencies, for career advancement or to stay abreast of a rapidly changing environment.

This is also often the case with the generation Y or millennials workers. New generations tend to be active learners, creators of knowledge and active consumers, self-driven. For these generations it's harder and harder to sit through training with a classic "framework" of hierarchically constructed lessons, overviews that drill further into details, delivered at the pace of instructors.

In order to best describe how micro-learning fits into a learner's development path, we have devised a fictitious character, "Joe the Engineer".

"Joe the Engineer" is a classic self-learner of the younger generations. He's an engineer, therefore in high need to keep his skills current.

Joe does not learn well with traditional learning methods, like Instructor-Led Training or structured eLearning. Joe's way of learning is based on:

- Constructing knowledge by means of finding new solutions to problems

- Conversations and collaborations with colleagues, peers, experts, where Joe at the same time shares his knowledge and this is augmented by the experience of colleagues

- Self-directed in terms of timing and cycles for learning. Joe decides when and how to learn, and what to learn.

Joe needs to learn a new ERP system. This system is peripheral to his job. He only needs to interact with this system to enter his time and request a leave of absence, and enroll in training.

A learning path we designed for "Joe" consists of six steps:

1. Creating learning content to match Joe's role. Learning content is narrowed to the few, key things he needs to learn. Content is packaged in 3-5 minutes videos, cue cards, and work instructions compatible with his work devices, his PC and his tablet.

2. A learning moment deployed based on Joe's needs. Joe logs into the new system for the first time. The system recognizes this is a first login and "pushes" a notification showing that learning opportunities are available.

3. Joe views the short video and downloads the work instructions. He's able to perform the task.

4. Joe uses a social platform to share and collaborate with colleagues. If he gets stuck in his task, he can consult a collaborative platform with the most frequent questions, tips and tricks shared by his colleagues and by super-users.

5. Behind the scenes, another application silently tracks Joe's keystrokes and identifies where he and his colleagues most frequently receive errors. The Learning and development team tracks such metrics and provide end-user support, and update microlearning content as needed

6. When Joe logs in again, he finds a brief cue-card to remind him of the key steps he needs. He can also scan a QR code to find out who to contact for help.

The below figure illustrates the learning journey for Joe.

Figure 1. "Micro" Learning Journey Steps

Extrapolating, the adult learning journey based on micro-learning includes the following steps:

1. Preparation of adequate content

2. Point-of-Need Access, making learning available at the moment of need

3. Learning moment

4. Collaboration with peers, colleagues, Super-users

5. Measurement / feedback of his performance *in the tasks*

Micro-learning Technology Considerations

The most challenging aspect for any learning professional that has attempted micro-learning is having the technology to manage complex development and offer a delivery mechanism that can truly present the information when the learner needs it and seeks it.

Most companies dealing with learning an ERP system use a Learning Content Management System (LCMS) such as SAP Productivity Pak or SAP Workforce Performance Builder. These tools help addressing the complexities of learning development and delivery for a new system.

In order to implement micro-learning, the LCMS in use will need to provide a very robust set of capability for development in multiple formats, provide full integration with the ERP, and deployment in a variety of environments.

First, the LCMS will need to be integrated with the target application, the system that end-users are attempting to use and learn.

Integration will allow content to flow seamlessly from the LCMS to the screen of the end-users, prompted by user's keystrokes.

Also, the LCMS needs to have "push" capability, to push content to the user.

Another key technical element of microlearning is the ability to measure learner's knowledge and performance. Measurement can be achieved in different manners:

- Through a simple "knowledge check"

- Through tracking the learner's keystrokes in an effort to measure his actual performance with the task of using the new system.

Lastly, the LCMS needs also to have mobile capability to address various devices and environment where tools will operate. A LCMS that allows creating a QR code will prove extremely useful. For example, learners can scan the code with their mobile devices when they need help, and more detailed content or helpdesk phone number may appear.

Micro-learning Instructional Design Principles

There are specific instructional design principles that increase effectiveness of micro-learning content:

- Creating short content that is easy to absorb. This presents a challenge for the learning professional in breaking complex topics in small chunks.

- Including "Prompts" to activate learning. Effective micro-learning content frequently includes "prompts" that activates recollection associated with a specific context. When creating content, micro-learning experts would include a theme, for

example a fictitious character, or a story to package the content thematically, and provide learners a way to recognize and categorize content.

- Including interactivity support memorization. A simple way to add this aspect is including short quizzes associated with the content. This cements the learning and provides immediate motivational reward. However, with current technology it's possible to go further and provide learners with a more intuitive experience.

- Providing information at the moment of need. The motivational aspect of learning is fundamental in this context. Research shows that presenting the information when the user is most open to it results in better retention and reduces learning curve.

Four Steps to Implementing Micro-learning

Companies embarking in a micro-learning, journey are often overwhelmed and don't know where to start. Typically we recommend starting with a strong, robust micro-learning strategy that "overlays" and complements their traditional learning journey.

There are four components to such strategy:

1. Identify the "learning journey" to design an approach suitable for the target audience. It's about creating a learning journey for their version of "Joe the Engineer" and identifying the most appropriate modalities for delivering content whether it's communication, direct learning, interactive learning, or performance support and reinforcement. This also includes outlining the company's needs and environment;

how micro-learning will be implemented; and effectiveness will be measured.

2. Define technology recommendation tools and technology needed to achieve the micro-learning model. Current tools available within the company need to be assessed, gaps identified and recommendations formulated.

3. Micro-Content Creation Plan. A plan detailing "who, when, how" micro-content content will be created. This integrates the overall implementation or optimization plan and augments it by identifying who will be working to create the message. For example an individual in the change team will be identified to serve as "micro-learning" champion, who identifies opportunities to use micro-learning, create content and be a reference for others in the team.

4. Micro-Learning Performance Success. Key Performance Indicators (KPIs) for measuring successful micro-learning will need to be defined and integrated into the plan to track and measure training effectiveness.

Conclusion

This brief excursus in micro-learning has shown that there are several areas and opportunities for companies embarking in this new modality. Particularly, with micro-learning, the true effectiveness factor is that the learner, not the instructor, is in charge.

As our lives become more digitally connected, and we are used to "anytime anywhere", employees and corporate learners are becoming more and more resistant to traditional learning and more receptive of this new modality. The fact that typically micro-learning fits into a learner's daily schedule without interruption it is particularly appealing to learners and learning professionals alike.

As learning technology becomes more robust, more opportunities for microlearning will become available. Similarly, the hope and expectation is that the field of instructional design will continue to advance to match the emerging requirements of informal learning activities such as micro-learning.