

SECURITY COMPASS WHITEPAPER

Just-in-Time Training in an Agile Environment





The learning market has changed significantly in the last few years. According to a recent study by LinkedIn, 48% of those who responded to their survey preferred to learn “at the time they needed the information”, and 68% of those who responded “preferred to learn at work”.⁽¹⁾ When you add to those statistics the fact that since 2017, 59% of talent development budgets are being spent on online learning, it becomes clear that an eLearning Just-in-Time training solution is much more than a trend.

What do these statistics mean to an organization who wants to create a culture of learning and develop a “high performing” workplace? It means organizations must understand the workflow of their development teams and provide training when and where developers need it. Relevant training is therefore most efficient when it is available and embedded within the tools that developers use to complete their day-to-day tasks (eg. JIRA). Josh Bersin, Founder and Principal of Bersin by Deloitte, has done a great deal of research in this area. He describes what many refer to as Just-in-Time-Training as the “new paradigm for corporate training”.⁽²⁾

In an Agile organization, developers quickly create working, tested code, that delivers value to the organization, and reiterate this. This continuous deployment methodology requires that developers know and understand the security risks and regulations when they code. Lack of knowledge or inability to remember what needs to be applied to create secure code, can result in a costly re-coding exercise.

Just-in-Time Training, the New Paradigm

David Mallon, Head of Research for Bersin by Deloitte, completed the most recent edition of Bersin's High-Impact Learning Study. His research concludes that "traditional methods of learning and training aren't working anymore"(2). Individuals are used to consuming information when and where they want it, and this information consumption pattern has spilled over from their personal lives into their professional ones. As a result, they have an expectation that they will consume work related training as they want and need it. While learners want information where and when they need it, there are limitations on what learners can consume and remember. Microsoft studied the brain activity of 2000 participants and concluded that the average attention span has dropped from 12 seconds to 8 seconds.(3) So learners are consuming information when they want or need it, but their ability to focus on the material presented has dropped significantly as well.

Studies have also been performed on the amount of material that learners are able to remember. "Research shows that within one hour, people will have forgotten an average of 50 percent of the information presented. Within 24 hours, they have forgotten an average of 70 percent of new information, and within a week an average of 90 percent of it". (4) This further highlights the importance of repetition and providing learners with information when they need it broken down into "bite-sized" or "micro-learning" pieces that can be remembered.(5) The solution to most of these constraints is Just-in-Time Training. It provides developers with the content and direction they need, allowing them to apply directly to a work task what they've learned from short training modules - all as they build security into applications according to the requirements outlined in the training.



Microlearning or Just-in-Time Training

Microlearning is simply a training method that delivers content in small, bite-sized pieces of information to employees. According to the Association for Talent Development, their survey found that "38 percent of talent development professionals currently use microlearning and another 41 percent plan to start within the next year."(7)

"While microlearning delivers bite-sized information, Just-in-Time learning takes it a step further and delivers it when and where it's needed — at the point of friction where employees are likely to make mistakes. Just-in-Time learning embeds bits of knowledge into business processes so that users can find answers to their questions without interrupting their workflow."(8) Beyond providing the information at the time the learner needs it, Just-in-Time training reinforces knowledge and helps learners to perform their work without errors.

The Benefits of Just-in-Time Training

Just-in-Time training fulfills the learning requirements of the learner through bite-sized learning in real time - right when the learner needs it. In the context of software development, the benefits of this type of learning approach include:

+ Increased accuracy – fewer vulnerabilities

Because Just-in-Time training is provided right at the time a developer needs it, coding errors can be significantly reduced. As noted above, the learner will remember significantly more because the information is provided at the time the developer needs it, and the act of using the information learned immediately further increases information retention. Learners retain 90% of what they learn when they apply what they learnt immediately (9).

+ Current information

Just-in-Time training can also help ensure learners are being provided the most up-to-date content, as smaller pieces of information can be more easily revised than an entire course. When regulatory standards are changed, risk policies altered, or best practices are modified, organizations can, and should, provide developers with the latest content that ensures organizations don't end up with vulnerabilities or gaps in their software applications.

+ Engaged Learners

In 2018, Gallup measured the impact of employee engagement on an organization's financial results by measuring employee engagement through "actionable workplace elements with proven linkages to performance outcomes" (11) (e.g. the opportunity to learn and grow - training). The result was that organizations who were best in engaging their employees achieved earnings-per-share growth more than four times that of their competitors.(11)

Because Just-in-Time training puts the control into the learner's hands, employees can be confident that they have access to the knowledge they need when they need it. This self-driven practise makes for more engaged learners - as the desire to execute and see the immediate results of the coding task propels developers to learn and execute!

Conclusion

Bersin's study indicates that high-impact learning organizations can be graded on learning organization maturity. Those who attain the top level of maturity, or the fourth level, come from every industry, have various revenues, and are of different sizes.

Organizations who achieve this fourth level "anticipate the learning needs of employees and get out ahead of them. They intentionally stage content, provide support in advance of worker need. Employees are never lifted out of work to learn. The organization understands and is mindful of learning and development opportunities that arise on a daily basis. Level four is about supporting learning in the flow of work". (10)

Not only is Just-in-Time training effective for developers, but organizations who offer this type of training reap additional benefits. In addition to creating and fostering a culture of learning, research demonstrates that these fourth level learning maturity organizations are considered as "High-Impact Learning Organizations" and outperform their peers by delivering profit growth three-times greater than their competitors.(2) This tremendous advantage is attributed to keeping employee skills current and relevant.



Sources

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