

Designing effective online courses for business training

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Abstract

This article aims to explore the e-learning experience delivered by Systematic Inventive Thinking[®] (SIT) through its course management system (CMS), called Insite Academy. SIT is an international leading company which aims to promote truly innovative thinking by encouraging organizations to embed innovations in their company's culture. The process of teaching innovations online requires a well-devised strategic plan for e-learning with long-term perspective, methodological and didactic concept of educational materials, a strategy for assuring an administrative and technical support of the course participants and a reliable course management system. As a result, by exploring the learning experience provided by SIT for delivering high-quality business training, learning centers and academic institutions with the same focus might take certain benefits and valuable insights. However, this article will make a review of the experience which was obtained throughout the investigator's participation in two online courses.

Boettcher and Conrad (2010), suggest that the e-learning experience could be effectively assessed by using Quality Matters Rubric from the quality Matters Institute (Boettcher J, Conrad R, 2010).

The analysis will be based on a subset of criteria, because the investigator as an external expert has limited access to the company's internal standards and policies. As a consequence, this study does not pretend to assess the quality of all e-learning courses provided by SIT, rather to reflect the investigator's e-learning experience obtained during the course participation.

Keywords: E-learning, online learning, blended learning, systematic inventive thinking, course management system, training, assess, quality matters rubric;

Introduction

Systematic Inventive Thinking[®] (SIT) is global leader in developing culture and practice of innovations. As being a worldwide company, it has branches in Australia, Austria, Israel, USA, UK, China, and Columbia.

Based on the notion that innovations share similar patterns, the company has successfully developed a method called: Innovating Inside the Box. This approach actively encourages organizations to identify and effectively resolve their problems by achieving sustainable results. SIT assists companies to create and develop an appropriate internal structure and mechanism that would enable a long-term perspective for integrating innovative business practices.

SIT's model of inventive thinking is based on five layers, focused on:

1. Thinking tools: Subtraction, Multiplication, Task Unification, Division, Attribute Dependence;

2. Principles: Function Follows Form, Path of Most Resistance, Closed World, Cognitive Fixedness, Virtual Product, Existing Situations;
 3. Facilitation Skills: Reflection, Idea Collection, Practice, Meta Cognition and etc.
 4. Project management: Action items, Idea list processing, Innovation mapping, Convergence, Project teams;
 5. Organizational innovation: Cross organizational training, Innovation management, Predictable and measurable, Common language and Sustainable creativity;
- This “ripple model” is the core of the courses delivered by Systematic Inventive Thinking® through its online campus.

Motivational beliefs and perceptions

The tremendous growth in e-learning has resulted in a major shift in education from an instructor-centered to a learner-centered focus. Lecturers in the traditional, face-to-face classroom provide their students with guidance and some additional directions, students learning online must have to take the responsibilities for the time management and for the control of their learning progress. (Artino A. 2008). The instructor is more of a coach and observer whose main task is to facilitate the student’s retention in the online campus. Its role includes also to guide the learners to set up their own self-regulated learning (SRL), which means: course participants have to set up their personal goals for their learning and then the instructor is expected to monitor, control and facilitate their cognition, motivation and learning behavior in accordance with their personal goals. This is one of the most important hallmarks of the online learning and its existence could lead to personalization of education that result in an effective online learning model.

However, another predictor for having a successful online training is the student perceived self-efficacy. This factor reflects learner’s self-confidence for achieving particular performances and dealing with some daily assignments. Moreover, student’s self-efficacy is highly dependent from the students self-regulated learning behaviors. (Schunk 2005). Furthermore, student’s personal motivational beliefs are influenced by the overall perception of their leaning experience. Many organizations and schools tend to measure the student’s overall satisfaction only once - when the course is coming to close. Thus, they are not able to track precisely the student’s perception and motivational beliefs and in case of insufficient satisfaction higher dropout rates could be produced.

Measure the learning experience

The utilization of internet-based education in all of its forms (e.g. e-learning, blended learning, mobile learning) has become more and more popular and grow in a frenetic rate. (Jethro at al, 2012). Undoubtedly with its large numbers of appealing capabilities, it has opened new opportunities for faculties to effectively deliver their learning outcomes. The e-learning has changed the existing teaching and learning habits and behaviors as well as causing its strong impact and influence on the traditional face-to-face learning approach by making the learning process more accessible and flexible. As a consequence, the learners’ expectations become higher and definitely more sophisticated. The e-learning as an effective approach is not limited for academic usage but it also facilitates staff and vocational trainings, self-paced learning, problem solving for the needs of corporative and social enterprises and etc. Obviously, the economic benefits are also present – distance learning reduces the education expenses and increases the organization’s productivity by delivering training programs that meet the exact learners’ needs. According to Hall and

LaCavalier IBM saved approximately 200 million USD offering e-learning at one-third the cost of the previously used traditional method. (Hall B., LeCavalier J. 2000). Ernst & Young reduced the training costs by 35% and simultaneously improved the sustainability of their training (Strother J., 2012). In spite of becoming vastly popular and more and more preferable learning approach, there is no universal method that could be utilized to measure the quality of the e-learning.

Many organizations, schools and colleges use different assessment models in assessing the quality of the delivered e-learning and hybrid learning, e.g. blended learning (Chen, M. P. 2009). Chapnick (2000) suggested an e-learning assessment model that includes eight components to evaluate an organization's e-learning: "Psychological readiness", "Sociological readiness", "Human resource readiness", "Financial readiness", "Environmental readiness", "Technology readiness", "Equipment readiness" and "Content readiness". In terms of the organization's e-learning effectiveness, Rosenberg (2000) referred seven indicators like: "Business readiness", "Changing nature of learning and e-learning", "Value of instruction and information", "Role of Change management", "Reinvention of training organizations to support e-learning efforts", "E-learning industry" and "Personal commitment".

Kirkpatrick (1996) argues a four-level model for assessing the training effectiveness, especially for the needs of non-academic organizations:

Level 1: Reaction – it measures the learners' expectations, evaluated by a survey.

Level 2: Learning - assess the amount of information the learners managed to obtain.

Level 3: Transfer – evaluate an amount of knowledge that learners use in their every-day work.

Level 4: Value to the organization – it measures the economic benefits the enterprises take by running training courses, e.g. the cost benefit ratio of training.

Cheng and Hampson (2008) argue for certain limitations of this assessment model – levels three and four are rarely used by organizations and it is advisable to focus on the first two levels. Alliger and Janak (1989) claim for other restraints of the Kirkpatrick model - each level is correlated with the previous level and that is not necessarily the case. As a result the organizations should consider what form of assessment is needed and to adapt the model according to the specific matter of their training programmes.

However, another approach that assure effective quality assessment is the Quality Matters Rubric from the quality Matters Institute (Boettcher J and Conrad R 2010).

Quality Matters is a US national-approved set of standards that ensures a high-quality e-learning experience. It offers a set of criteria that introduces faculties and administration with the latest remote-teaching practices and effective approach of instructional design as well as providing rubrics for assessing the quality of e-learning and blended learning. (*University of Minnesota,*)

Based on the ability to precisely assess the quality of small corporate trainings, the investigator's learning experience is evaluated by using a subset of standards that constitute a vital part of the Standards for Quality Matters (QM) Continuing and Professional Education Rubric. Its main goal is to assure precise tools for assessing the quality of e-learning courses. This framework of this model consists of eight sections that drives key elements for measuring the quality of the learning.

This study does not pretend to make a thorough assessment of the quality provided by all listed courses by SIT, rather to focus on the learning experience obtained by the investigator throughout his participation in two fundamental courses. The analysis will be based on a

subset of criteria, e.g. the standards are reduced to six, because the investigator as an external expert has limited access to the company's internal standards and policies. Thus, regarding this purpose, the usage of the following subset of standards and criteria provided by Quality Matters would clearly assess the effectiveness of the learning outcomes delivery.

Non-annotated Standards from the QM Continuing and Professional Education Rubric, Second Edition, 2015:

General Standard 1 The overall design of the course is made clear to the learner at the beginning of the course.

- 1.1. Instructions make clear how to get started and where to find various course components.
- 1.2. Learners are introduced to the purpose and structure of the course.
- 1.3. Etiquette expectations (sometimes called "netiquette") for online discussions, email, and other forms of communication are stated clearly.

General Standard 2 Learning objectives or competencies describe what learners will be able to do upon completion of the course.

- 2.1. The course learning objectives, or course/program competencies, describe outcomes that are measurable.
- 2.2. The module/unit learning objectives or competencies describe outcomes that are measurable and consistent with the course-level objectives or competencies.
- 2.3. All learning objectives or competencies are stated clearly and written from the learner's perspective.

General Standard 3 Assessment strategies are integral to the learning process and are designed to evaluate learner progress in achieving the stated learning objectives or mastering the competencies.

- 3.1 The assessments measure the stated learning objectives or competencies.

General Standard 4 Instructional materials enable learners to achieve stated learning objectives or competencies.

- 4.1. The instructional materials contribute to the achievement of the stated course and module/unit learning objectives or competencies.
- 4.2. Both the purpose of instructional materials and how the materials are to be used for learning activities are clearly explained.
- 4.3. The distinction between required and optional materials is clearly stated.

General Standard 5 Course activities facilitate and support learner interaction and engagement.

- 5.4. The requirements for learner interaction are clearly stated.

General Standard 8 The course design reflects a commitment to accessibility and usability for all learners.

- 8.1. Course navigation facilitates ease of use.
- 8.5. Course multimedia facilitate ease of use.

Insite Academy is the name of the learning management system that enables an effective delivery of knowledge, course management, evaluation as well as assuring the course participants with feedback and comments. This LMS is powered by School Keep – a leading company focused on providing online platforms that enable business professionals with a limited e-learning experience to create and effectively disseminate online training content.

However, the investigator participated in the following courses:

- Innovate With What You Have
- Process Innovation Is In Order

The main target audience of the Insite Academy is entrepreneurs, owners of small, medium and large-sized companies, managers who seek an effective approach to enhance their productivity, employees who want to master new skills and to break their daily routine, students, etc.

When login into Insite Academy, learners could find instructions that clearly state how to get started, e.g. there is a section, called: How to best use the platform. The learners are introduced with the main objectives and structure of the course they have enrolled as well as announcing them how to find the course components (Fig.1). The rubric is accompanied by a graphic resource - a catchy image that reflects the student's expectations and course objectives.

The "Innovate With What You Have" course is composed of the following sections:

- Before you start
- Introduction
- Unit 1 - Understanding and overcoming the limiting effects of Functional Fixedness
- Unit 2 - The closed-world principle, and the power of looking 'inside the box'
- Unit 3 - Applying Task Unification to empower your resources
- Course challenge
- Summary
- We value your opinion (feedback questionnaire)

Fig.1 – Course structure

Source: <https://insite-school.schoolkeep.com/outline/ua25k60v/cover>

The two courses have a clear and vivid structure, which is illustrated with a short video announcement at the very beginning of every course. (Fig.2).

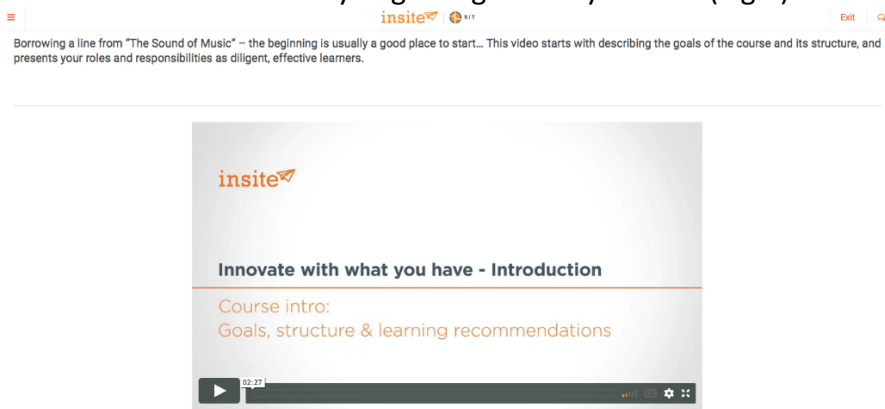


Fig.2. Video – Course intro

Source: <https://insite-school.schoolkeep.com/outline/ua25k60v/activities/csv1xgcd>

Furthermore, Insite Academy offers their users with a netiquette – the form of communication is clearly stated, e.g. contact email address for support is announced in case learners face troubles or have further queries. A rubric that announces the participation in online discussions and forum is available, under the title: *Sharing – using the discussion forum*. However, the students could be completely aware of what they are expected to learn, what is the realistic time frame for completion of every course and what practical skills they will obtain at the end of their learning path. For example, the course *Innovate With What You Have* requires to spend efforts for approximately 3-5 hours, whereas the course *Process Innovation in Order* takes in average 3-4 hours. One of the major benefits of these courses is that they are self-paced and learners are not supposed to follow any

schedules. Thus, it enables them to have a profusion of daily responsibilities and business commitments to effectively set up their self-regulated learning and personal learning goals in accordance with their availability.

However, both courses offer the participants with competencies that are measurable. All learning objectives are stated clearly from the learner's perspective and encourage the users to use some key resources that could enhance their learning experience (Fig.3).

To enhance your learning experience and make it more effective, you are welcome to make use of the following key resources:

1. A discussion forum to share ideas and react to community learners' comments.
2. A teaching assistant to answer questions and give feedback.

At the end of the course you will take away:

- A basic skill set for innovation
- A downloadable toolkit for reference

Course Instructors

Fig.3. Competencies and suggestions.

Source: <https://insite-school.schoolkeep.com/outline/ua25k60v/cover>

The presence of the above-mentioned resources leads to a conclusion that these online courses completely cover all denoted criteria in General Standard 1 and 2 from the Non-annotated Standards from the QM Continuing and Professional Education Rubric.

However, Insite Academy offers learners the ability to easily check their learning progress – a bar located on the top of the main course page tracks the learning completion.

85% Complete



Course Outline

Before you start

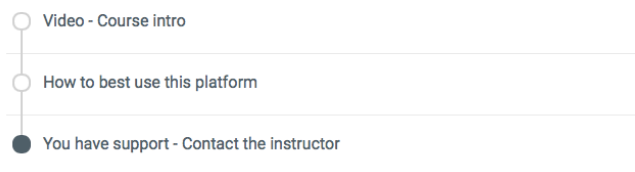


Fig.4. Learning Progress

Source: <https://insite-school.schoolkeep.com/outline/ua25k60v/cover>

The assessment strategy for all online courses constitutes quite essential part of the learning process. Unlike the traditional classroom, all assignments and exercises have to be clear, short and concise. Both of the investigated courses offer an effective approach for assessment – short exercise and a query type: True or False appears at the end of every unit, instead of offering the students with one final exam that would validate their skills. All exercises at Insite Academy are optional, which means that learners are allowed to take the responsibilities in their hands – to make or skip the tasks, depending on their self-regulated learning behaviors. In addition, all tasks are precisely designed in a way to consolidate just the most fundamental insights the learners are expected to gain throughout the regarded unit. Another great benefit is that all the tasks consist of clearly stated questions that enable the students to focus better their mind. Examinations are the only way of testing a person's ability and the only way through which knowledge could be validated at the end of the training. (Furo P. 2015). The examination anxiety is a common phenomenon among all students, mainly because exams induce worries about the score, fears of failure and stress. (Okogu at al. 2016). The assessment strategy breaks the conventional stereotype of

assessment and instead of using score method, the results are illustrated through a catchy animated person whose attitude and facial expression announce whether the learner passes the query correctly or not (Fig.4). Furthermore, learners are allowed to make the tasks multiple times until they manage to deal with the exercise and thus create a better understanding of the learning outcomes. This strategy facilitates building a positive learning environment where there is no stress and fear and hence, it has a direct correlation with the students' motivational beliefs.

In terms of the assessment strategy, it should be an advisable to announce the learners with the estimated time they will need to spend for making every single assignment. Thus, they would be able to obtain clear expectations and manage better their learning time.

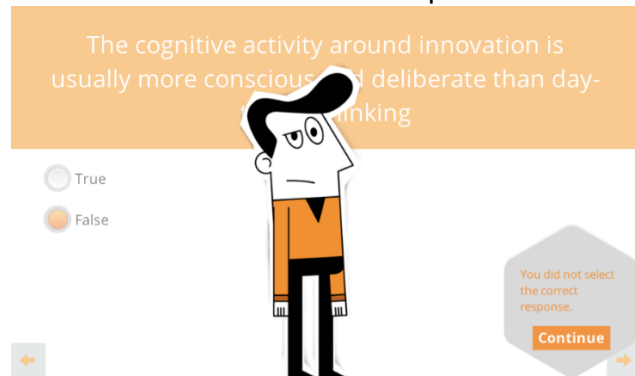


Fig.4. Incorrect answer of a query.

The instructional material consists of video lessons allocated in three units and one summary module at the end of the course. Insite Academy uses small, bite-sized video lessons which allow learners to easily adjust their self-regulated learning behaviors and thus to stay focused on the announced learning content. Its length varies between 01.15 – 03.40 min. which reflects the author intention to disseminate knowledge in short bursts learning sessions. Furthermore, all videos start with a cover image that contains the title of the lesson, unit's & video's number as well as illustrating the main learning outcome and the purpose of the instructional materials stated in General Standard 4.2., e.g. "Understanding and overcoming the limiting effects of Functional Fixedness". (Fig.5). This approach facilitates the learner's navigation through the current unit and related modules – 8.1. Course navigation facilitates ease of use, stated in Standards from the QM Continuing and Professional Education Rubric.

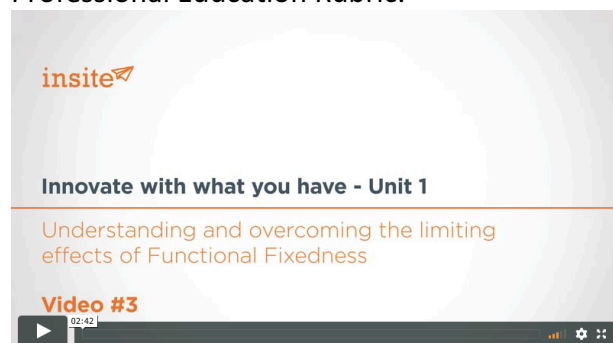


Fig.5. Cover image of video lesson.

After that, there is a 10 seconds animated intro that serves to strengthen learners' attention and to facilitate the learner's orientation. The next part of the lesson continues with a brief review session curated by the instructor which brings the main learning content back in a

new context and thus, facilitate the memorizing. The instructor usually draw the learner's attention by raising a question in the very beginning of the session and thus provoke them to guess for a solution. However, from a didactic perspective, the instructor provides the learners with easy to understand tips and definitions - both visually and verbally. All gestural and nonverbal aspects of didactic online interaction with the learners play an essential role in building the cognition (Fig.6). By using some sophisticated gestures and an appropriate verbal communication, the lecturer allows the users to make a clear distinction between the required and optional materials, e.g. General Standard 4.3.



Fig.6 Gestural and nonverbal aspects.

Finally, the instructor refers the learner's attention to the next lesson. It enables the students to strengthen their self-regulated learning behaviors and motivation and subsequently to increase their engagement.

These short and engaging lessons are highly interactive – the visual content is perfectly plotted and communicate clear, consistent and compelling learning outcomes. This pure design piques the learner's interest without outshining the role of the instructor. In a nutshell, this visually appealing graphic is used to enrich the learning content and to create "visual identity" of the course – who offers this course, what is the courseware about and what makes it different from others (Fig.7).

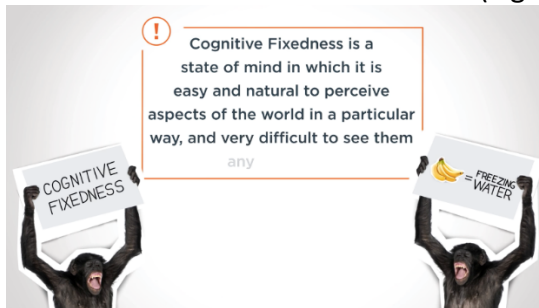


Fig.7. Example of animated learning content.

However, the course activities feature a wide range of exercises. These activities often encourage the learners to read some short texts and to briefly express their answers. Most of the announced exercises draw the learner's attention to situations which are relevant to their business routine. The learning content involves also exercises which are designed to meet the students with some abstract situations and by stirring their imagination allow them to retrieve the main learning outcomes. Regarding its effectiveness, the investigator recommends to include more study cases which brief format makes them quite appropriate learning activity for the needs of the e-learning.

Conclusion

Insite Academy is a highly autonomous learning environment that enables learners to obtain valuable insights for innovations, based on the SIT method, called: Innovating inside the Box.

However, SIT employs proven cognitive techniques – based on the notion that everyone learns differently, the learning content is designed to meet the needs of the individuals.

All learning activities are used with different purposes in the following learning processes:

- **Discovery:** discover when reading and watching the course content.
- **Study:** explore new insights while watching these highly interactive, bite-sized video lessons or doing some exercises.
- **Organization:** Create their self-regulated learning behaviors. By using this easy to use navigation, learners would be able to stay focused on the learning content without being distracted.
- **Consolidation:** all short review sessions, tests and exercises are designed to make learners feel engaged and to stick the new information in their long-term memory.

The course structure of *Innovate With What You Have* and *Process Innovation Is In Order* meet the quality standards and sub criteria stated by Quality Matters.

However, there are few recommendations in terms of the assessment strategy and the learning content:

1. It could be advisable to define an estimated time for making the assignments.
2. To design more practice oriented brief tasks, e.g. study case, that would sharpen the students' attention and to facilitate the process of consolidation.
3. To increase the interactivity of the learning content through the utilization of didactic games. The games could produce innovative and engaging learning experience. Their focus will be on the learning content and they should reflect tension that makes learners care more about the goal of the game.

In a conclusion, SIT provides high-quality online courses through its online digital infrastructure, called Insite Academy. Their truly innovative didactic approach facilitates the building of the cognition in an interactive and easy to use digital environment. The learning content is adaptive to support better the students at risk – these learners who are not able to quickly learn new insights or loose motivation throughout the learning path. Both of the reviewed courses reflect personalized learning content through the utilization of highly-interactive learning activities, such as:

- Quick and instant communication between the learners and the instructor.
- Highly interactive and visually appealing instructional materials designed in a way to enable learners to achieve all stated learning objectives in the very beginning of the course.
- The assessments measure the stated learning objectives and progress.
- Course navigation facilitates ease of use.

As a consequence, Systematic Inventive Thinking[®] (SIT) pedagogy provokes:

1. Intense concentration on the task at hand.
2. A deep sense of involvement and merging of action and awareness.
3. A sense of control over one's actions in dealing with the task at hand.
4. Enjoyment and interest in the activity.

Insite Academy uses an effective didactic approach in order to successfully deliver the learning outcomes. The units are engaging and delivered through user-friendly designed course management system.

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