Research on Interactive Training of Enterprise Employees

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Abstract: Employee training plays an indispensible role in enterprise development. Nowadays employee training is facing significant opportunities and challenges due to impacts of Internet. Interactive training is a promising solution to cope with this situation. This paper investigates on interactive training in the following aspects. First, it introduces that the construction of interactive employee training relies on five core elements. Second, it discusses the satisfaction evaluation methods of training. Third, it demonstrates that interactive training raises high demands on the underlying web service functionalities and explain the routine of satisfying the demands. It is hoped to contribute to the employee training of local companies.

1. Introduction

In view of the opportunities and challenges brought by the Internet to the training of enterprise employees, there has been many related research works [1][2]. The web-based training mode can efficiently facilitate employee knowledge management and business management. This training mode represents a management mechanism whose ultimate goal is to endow employees with knowledge that they should or need to know. Many well-known international companies, such as IBM, Cisco, and Bell, have applied web-based training to train technical staff and provide services to customers.

The existing web-based training mode is evolving into the form of interactive training [3], which is more than learning though the network. Online training and traditional classroom training modes both have advantages and disadvantages. Interactive training efficiently integrates these two training modes through incorporating merits of both. In addition, interactive training emphasizes the dynamic interaction between the two modes.

In this paper, we investigate on the routine of building, evaluating and upgrading interactive employee training. The rest of this paper is organized as follows. The second section demonstrates core elements of building interactive training. Evaluation of satisfaction is discussed in the third section. The fourth section discusses the methodology of upgrading network services. The fifth section concludes our investigation and points out the future work.

2. Core Elements of Building Interactive Training

The first generation of online learning or web-based learning typically focuses on transmitting the live scene of a classical classroom to remote trainees through Internet. In addition, an online course is typically simple repetition of the classroom version. As a result, the training experiences of trainees are tedious. Trainees are merely passively receiving knowledge, and thus lack interaction with trainers. Moreover, trainees also lack channels of mutual discussion [4]. Therefore, insufficient interaction impeded the creation of a favorable learning atmosphere for participations. By contrast, interactive training seeks to integrate diverse channels of knowledge delivery. We identify core elements of establishing interactive training as follows.

As shown in Fig.1, we argue that interactive training should include the five elements to achieve

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the desired training results.

2.1 Integration of Online Learning and Offline Training.

Intuitively, this element should incorporate both offline and online training. The online training usually means “training through the Internet or an intranet”, while offline training takes place in a more traditional classroom environment. In order to achieve this kind of integration, it is necessary to develop a unified online and offline training plan, and provide learning materials and research resources to the trainees through the network. The trainers are responsible for the traditional classroom teaching and online guidance.

2.2 Self-study and Remote Collaborative Training Fusion.

On one hand, self-study means individual learning based on the trainee’s personalized needs and self-designated schedule. On the other hand, remote collaborative training means that many trainees communicate more dynamically through the network to achieve knowledge sharing.

2.3 Integration of Structured Learning and Unstructured Training.

Structured training refers to training activities that are pre-arranged, organized, or have formal training plans. An example of training content is a series of chapters in textbooks. However, most workplace training takes place through unstructured forms such as meetings, corridor conversations or emails. Valuable conversations and documents in unstructured training events can also be considered part of the training content.

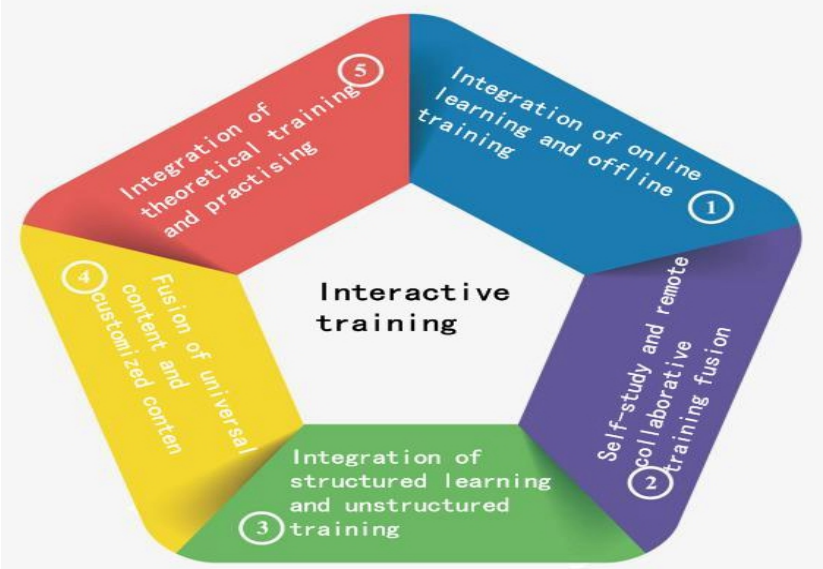

Fig.1. Core elements of building interactive training

2.4 Fusion of Universal Content and Customized Content.

The universal training content only considers the universal needs of an industry and may not fulfill the demands of a specific company or even an individual employee. Different enterprises in the same industry and different employees of the same enterprise can put forward certain common requirements for the training content. According to these common requirements, pre-organizing general training content can improve the efficiency of building a training plan. In addition, constructing methodology promotes the sharing and reuse of training content, and reduces the construction cost. On this basis, further training content is further customized according to specific needs.

The Sharable Course Object Reference Model (SCORM) [5] is an industry standard for building network training. This standard shortens development time, reduces development costs, and enables training content to be efficiently exchanged through a reusing and sharing mechanism. SCORM also provides a way to integrate universal content and customized content.

2.5 Integration of Theoretical Training and Practising.

For enterprise employee training, an optimal training process typically takes the following steps. First, theoretical training for the target job to be carried out; second, simulate the actual operation process in a virtual environment; third, evaluate the operation effect and feedback to trainees in real time. In this way, learning, hands-on operation, and feedback are integrated to form a closed loop, which improves training efficiency.

3. Satisfaction Analysis

3.1 Main idea of Satisfaction Evaluation.

We adopt an evaluation model that consists of six dimensions: information quality, system quality, system usage, user satisfaction, impact from a personal perspective, and the impact of a corporate perspective. As shown in Fig.2, in the process of performing the training, the interactive training system is essentially an information system. The characteristics directly presented to the user are information quality and system quality. The user perceives these two characteristics in the process of using the system, and thus reaches a judgment of satisfaction or not. Users undergo positive or negative influences during the process of using the system and perceiving the system characteristics, which eventually reflects the training effects. Training effects of all users are ultimately reflected in the perspective of the enterprise satisfaction degree.

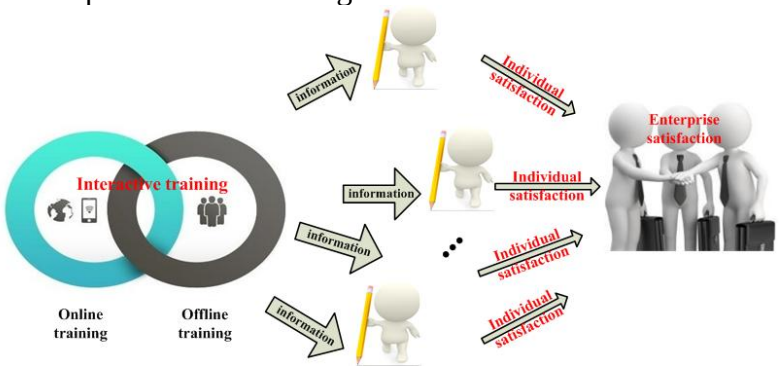

Fig.2. Training satisfaction evaluation

3.2 Analysis of the Evaluation Method.

A typical scenario of interactive training is that employees use the user name and password to login the enterprise's interactive training system via Web. A friendly design of login interface can alleviate the antipathy or tension moods that employees may have when they start training. After the login is completed, the employee selects the corresponding content according to certain rules under his personal account to start training. The quality of the information presentation of the course will determine the training experience of the employee. Upon the completion of training, the employee needs to complete the online or offline test, and interact with the trainer online or offline to complete the Question&Answer. The quality of the follow-up service such as Question&Answer will affect the experience of the employee in checking and consolidating the learning results.

A strong willingness to use the training system encourages employees to fit into the interactive training system, which makes it easier to achieve higher satisfaction. Employees will strengthen their willingness to use again if they get high satisfaction degree. As the training achievements, employees may apply what they have learned in practice, obtain positive feedback from customers, and so on. To sum up, only favorable training effects can positive achievements while favorable training effects stem from stronger willingness to use the training system and higher satisfaction.

4. Upgrade of Network Services

The online-offline integrated interactive training system includes traditional functions such as

authentication, learning progress tracking, course management, scheduling, learning effect evaluation, etc. It also includes some emerging features such as personalized customization, simulation of real work environment, social Media interaction and so on. Therefore, the network service must support both traditional coarse-grained functionality and emerging fine-grained services to provide high flexibility. Compared to traditional web-based training, real interactive training systems may be established in diversified manners. To support emerging capabilities, the training system must be able to support loose coupling to achieve service semantic interoperability.

Service interoperability involves the seamless creation, deployment, and incorporation of Web-based services. Service interoperability focuses on service grammar interoperability the ability to create services and interact with them from different platforms and environments on any platform in any environment. Specifications such as the OKI (Open Knowledge Initiative) [6] specify a universal-framework-based API for interactive training. These APIs provide support for tightly coupled collections of services and are grouped according to their functionalities. As we look into the future, more loose connections should provide greater interoperability and flexibility, and IMS (IP Multimedia Subsystem) tool interoperability is a positive step towards this direction. To upgrade network services, the focus issues are semantic exchange and control flow management between services, rather than universal APIs for inter-service communication. Semantic exchange can portray a more detailed view of the network service: what it can do, what it produces, and how it is managed. Semantic exchange also paves the way for generating and interpreting other information (trust and security).

5. Conclusion

Our research team has rich teaching experience, as well as abundant practical experience. However, in terms of interactive training, we are still in an exploratory stage. We find that there is still large promotion room of enterprise employee training in the Shandong Province. A properly organized interactive training plan can significantly improve efficiency of enterprises. We are strongly stimulated by this promising prospective. Our future work will construct a prototype of the interactive training system and perform further investigate on the issue of interoperability.

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