Evaluating and Improving an Online Occupational Health and Safety Training Program

Author(s): Hasan Tanis, Ömer Demir (presenting), Ceylan Dalgıç, Coşkun Ateş, Zülfü Obuz, Hakan Tüzün

Conference: ECER 2016, Leading Education: The Distinct Contributions of Educational Research and Researchers

Network: 16. ICT in Education and Training

Format: Paper

Session Information

16 SES 03 B, Distance Education, Blended Learning, and Face-to-Face Learning

Paper Session

Time: 2016-08-23
17:15-18:45

Room: OB-E2.38 (ALE 4)

Chair: Stefanie A. Hillen

Contribution

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Occupational health and safety (OHS) issues might be considered one of the main considerations among European countries as many employees encounter dangerous workplace conditions during work. Therefore, decision makers in these countries have initiated related projects to reduce the number of occupational accidents. Turkey is one of those countries that training activities have become mandatory due to a current OHS legislation amendment.

In every workplace there are some OHS risks. It is well known that taking required precautions prior to occupational accidents is much more efficient and effective than doing it subsequently. In fact, only 2 percent of these OHS risks are unpreventable, whereas the remaining risks can be prevented easily (Kilkis & Demir, 2012). In Turkey, every year approximately 77.000 occupational accidents occur. More than 1000 employees lose their lives, while more than 5.000 employees become permanently disabled due to these occupational accidents (Korkmaz & Avsalli, 2012).

In the institution, where this study was conducted, approximately 30.000 employees work. OHS training in the institution consists of theoretical and practical parts. In the practical part, when the necessity of gathering thousands of employees in various training centers and duration of those trainings are considered, it is obvious that OHS training activities would cost much and could cause administrative problems for the institution. Hence, the institution has decided to deliver theoretical part of the OHS training online in order to cope with this issue.

Purpose:

In this study, an online learning module on OHS, which had been previously developed by one of the biggest public institutions in Turkey, was improved. As the process of implementing improved learning materials takes much time, only preliminary findings were shared. The purpose of this study is twofold: first, to share the results of the impact of previous learning materials and staff's thoughts about them; and secondly, to discuss features of new learning materials and process of improving them.

Theoretical Framework:

As the theoretical framework, Ricketts's (2015) nine suggestions pertaining how to write safety stories were chosen so as to help designers write digital stories related to OHS. Besides, Cinar's (2012) experience-based e-course design model was used to facilitate the process of improving the learning materials.

Method

Formative research method of Reigeluth and Frick (1999) was adopted as the study's methodology. Approximately 9070 employees currently working at the institution filled in the online survey on the LMS. Staff were asked to answer nine survey questions related to their experience, attitude and thoughts about OHS module delivered via online learning. It should be noted that this survey was developed and administered by the institution at the end of the training without proving its reliability and validity. Since the number of the participants were quite high, this scale was used just to give some idea about staff's experience, thoughts and attitudes towards OHS training. In addition to nine close-ended questions in the survey, there was also one open-ended question at the end to obtain staff's detailed suggestions regarding how to deliver online learning more effectively. In line with Cinar's (2012) suggestions, design team visited the institution to gain the broader sense of organizational culture. Then, OHS legislations and previous learning materials were examined carefully by each member of the design team. In order to analyze current situation of OHS training in the institution, survey results and staff's posts on the LMS discussion board were also examined.

After the analysis, it was agreed to write safety stories and use formative evaluation activities. An LMS, which had been previously used by the institution, was decided to be used in order to deliver the learning materials developed with an e-learning software. Safety stories and learning materials were shown to a line manager of the institution and a field expert to obtain their feedbacks. Following this, the design team checked the learning materials and gave feedback to each other. In this way, bugs and spelling errors were fixed. Finally, two short tutorial videos were recorded with the purpose of aiding staff to get used to new learning materials.

Expected Outcomes

As for findings, in a nutshell, previous learning materials lacked engagement, interaction, visuality, authenticity, and formative evaluation. Some staff of the institution demanded face-to-face OHS training claiming it was such an important training activity that it could not be risked by delivering via online learning. Possibly due to lack of visuality, many of the staff reported learning materials as quite boring. Another finding from the analysis indicates that institution's staff request the learning materials to be customized to their workplace to better understand authentic implementation of the legislation. That is to say, rather than being generic to all institutional staff, they want it to encompass specific examples for each job title. Another one of the most prevalent complaints about the training was about the legislation's applicability in workplaces. Personnel do not believe managers know regulations and are eager to implement those in the institution. In addition, some personnel expressed that an evaluation is necessary to be able to monitor to what extent the staff have learnt from the learning materials.

As it is aimed to improve previous learning materials, it is expected to raise the awareness of OHS to reduce the number of occupational accidents in the institution. In addition, the new learning materials consist of different activities to enrich learning process, which can also be expected to contribute to interaction and engagement. By doing this, the legislations could be learnt easier and more effectively. Not only do improved learning materials contribute to learning process in a way of taking courses such as drag and drop activities, they might also promote transformative learning with safety stories to adapt the legislations to the staff's workplaces. Finally, we expect to make contribution to the OHS field in order to improve training activities in different workplaces.

References

Cinar, M. (2012). Web-tabanlı derslere yönelik tasarım sürecinin incelenmesi: Biçimlendirici araştırma örneği [Examination of design process for web-based courses: A formative research] (Unpublished master's thesis). Hacettepe University, Ankara.

Kilkis, İ., & Demir, S. (2012). İşverenin İş Sağlığı ve Güvenliği Eğitimi verme yükümlülüğü üzerine bir inceleme [A review at

the obligation of the employer to provide training related to occupational health and safety]. Journal of Labour Relations, 3(1), 23-47.

Korkmaz, A.,& Avsalli, H. (2012). Çalışma hayatında yeni bir dönem: 6331 sayılı iş sağlığı ve güvenliği yasası [A new stage in work life: Work Health and Safety law no. 6331]. SDU Faculty of Arts and Sciences Journal of Social Sciences, 26,153-167.

Reigeluth, C., & Frick, T. (1999). Formative research: A methodology for creating and improving design theories. In C.M. Reigeluth (Ed.), Instructional Design Theories and Models Vol. 2. Mahwah, NJ: Lawrence-Erlbaum Associates.

Ricketts, M. (2015). Using stories to teach safety: Practical, research-based tips. Safety Training, 51-57.

Author Information

Hasan Tanis
Hacettepe University
Ankara

Ömer Demir (presenting)
Hacettepe University, Faculty of Education, The Department of Computer Education and Instructional Technology

Ceylan Dalgıç
METU-TAF MODSIMMER
Ankara

Coşkun Ateş
Hacettepe University, Faculty of Education, The Department of Computer Education and Instructional Technology

Zülfü Obuz
Hacettepe University, Faculty of Education, The Department of Computer Education and Instructional Technology

Hakan Tüzün
Hacettepe University, Faculty of Education, The Department of Computer Education and Instructional Technology