

Applying Gagne's Nine Events of Instruction in designing and implementing workplace safety and health

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Introduction

For past years, KKH has continued to achieve and maintain credentials and certification in workplace safety and health (WSH). This is pertinent as Singapore moves into a manpower-lean economy amidst an aging workforce and helping all our employees stay healthy, safe and productive is an integral part of the hospital operations. To sustain and continually develop a proactive and interdependency culture, the hospital embarked on establishing an informed and learning culture - in which individual departments who manage and operate has current knowledge and performance on WSH. This in effect holistically internalise the organization's values and beliefs towards WSH.

Background

KKH continued to deliver WSH milestone to keep abreast of WSH developments and focus [Figure 1].



Figure 1. WSH milestone

A series of WSH programmes were implemented to promote and instill WSH focus among individuals [Figure 2]. To better improved communication and cooperation which can lead to increased motivation and productivity, KKH continues to promote a safe and healthy work environment through:

- Building WSH capability; and
- Promoting collective ownership.

Consistency in effort to sustain the culture of learning in WSH is imperative and individuals are continually developed with the know-how on WSH through competency-based training on "Develop a risk management implementation plan" in managing WSH risks at work.



Figure 2. WSH initiatives

Objective

The value of learning was measured to determine the value of the learning outcomes. Objectives were established by considering 4 distinct components - audience, behaviour, condition, and degree:

- All WSH representatives should be able to identify WSH hazards in their work environment.
- All departments should be able to implement WSH risk management in maintaining and improving work environment.

Methodology

A customised systematic instructional design approach that share behaviourist approach to learning was designed and implemented.

Through learning and application, the Gagne's Nine Events of Instruction (Gagné, Briggs, and Wager (1992)) was referenced with slight modification made in building WSH capabilities of the hospital's staff. The application of the events of instruction aims to encourage learners to use the knowledge and apply it to their work context. By knowledge transfer, the hospital encourages comprehension of WSH requirements with the goal of encouraging application of knowledge.

The instructional design was built based on a sequence of events of instruction from gaining attention to application and recalling of prior knowledge learnt. Learning evaluation was carried out to gauge the level that participants have developed in knowledge and transfer to application. The evaluation technique focuses on a quantitative outcome approach through the use of workplace observation to identify the number of hazards.

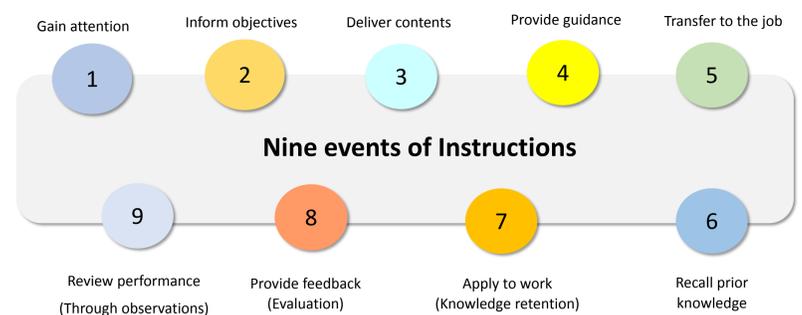


Figure 3. Events of Instructions

Result

The competency-based training on "Developing a Risk Management Implementation Plan" commenced in 2015 with a group of appointed WSH representatives, and continued with other WSH representatives subsequently in the years 2016 and 2017. With an average of 60 staffs trained per year from 2015 to 2017, a total of 184 WSH representatives had been trained to date [Figure 4].

Proactive measures through routine workplace inspection was carried out as part of the WSH performance measurement and monitoring. The workplace inspections was conducted on a weekly basis to determine WSH conditions and practices based on legal and organizational requirements. The number of hazards uncovered during the routine WSH inspection findings for the year 2015 to 2017 respectively were as follow:

- 2015 (88 hazards);
- 2016 (72 hazards); and
- 2017 (64 hazards).

From data collected from 2015 to 2017, it was observed that the increase in the number of WSH representatives trained corresponds with the decrease in the number of hazards identified: From 88 hazards identified in the year 2015, decreasing to 72 hazards in 2016 and 64 hazards in 2017. This has shown that the competency-based training has contributed to equipping the WSH representatives to apply risk management more effectively.

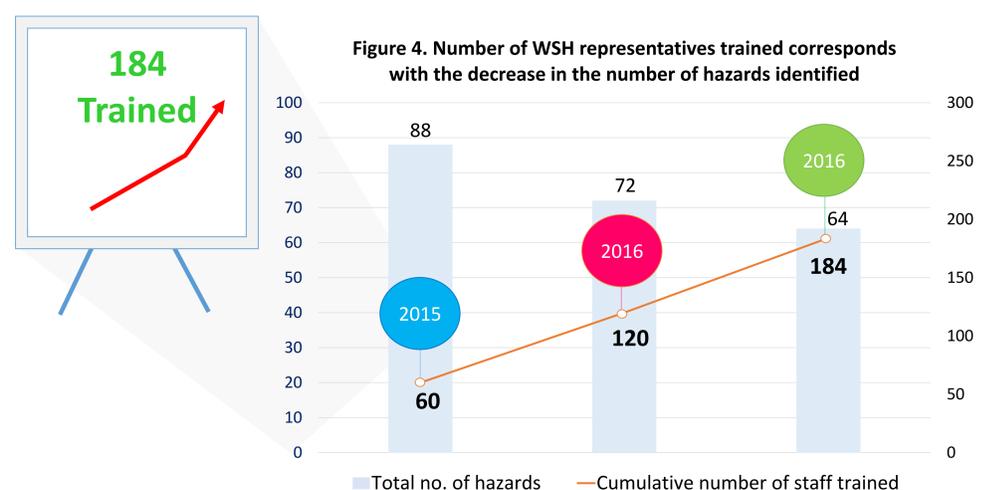


Figure 4. Number of WSH representatives trained corresponds with the decrease in the number of hazards identified

Conclusion

Consistent and proactive learning is an ongoing effort towards developing an informed and learning culture of continuous improvement, where people in the organization need to be engaged and a part of the process. Through learning and application by adapting the Gagne's Nine Events of Instruction (Gagné, Briggs, and Wager (1992)), learners are much more likely to be engaged and able to retain the knowledge and skills taught.

The engagement-centric approach has presented a possible factor that staffs are now more aware of WSH matters after the introduction of WSH risk management programme and are therefore more proactive in circumventing them. By knowledge transfer, the hospital encourages comprehension of WSH requirements with the goal of encouraging application of knowledge. The approach also serves as a platform for sharing knowledge, from the self-regulated hospital with both capability and positive attitude towards workplace safety and health.