Situation Awareness for SHAPE (SASHA)

Submitted by superadmin on Mon, 10/22/2012 - 14:45
HP Activity Categories: 
Assessment of situational awareness [1]
Resource Type:
Tool
Abstract:

The SASHA is part of the SHAPE questionnaires (SHAPE=Solutions for Human Automation Partnerships in European ATM). The SHAPE questionnaires were developed to assess the effect of automation on controller workload, situation awareness, teamwork and trust in the system. The SASHA questionnaire serves to assess the effect of automation on controller situation awareness.

References

Developer and source:
Eurocontrol
Doris M. Dehn; Assessing the Impact of Automation on the Air Traffic Controller: The SHAPE Questionnaires; Air Traffic Control Quarterly , Vol. 16(2) 127-146 (2008)
http://www.eurocontrol.int/humanfactors/public/standard_page/SHAPE_Quest... [2]

Year of development / publication, updates etc:
2003/ 2007

General Description

Purpose:
To provide a quick method of assessing situational awareness.

Type (e.g. observation, questionnaire, interview, checklist, measurement instrument, etc.):
Questionnaire

Technical description of method or tool etc

Description of the content/study:

In the questionnaire items were formulated which addresses the three different aspects of SA, that is, information extraction, integration and anticipation. SASHA comprises 6 items, which are not assigned to
individual scales. Responses to the items are given on a seven-point Likert scale ranging from ?never? to ?always?. Standard deviations (SDs) for the SASHA items ranged between 0.74 and 1.30. The internal consistency of the SASHA is high (?=0.86). Owing to its conciseness, the SASHA should be mainly used for acquiring an initial assessment. In order to obtain a more detailed insight into how the new automation might change the controller?s understanding of the task environment, it is recommended that an additional interview be conducted.

Technical requirements for using the method, tool, etc:

None

Measure/Response Type:

SASHA consists of six items rated on seven-point Likert scales.

Results obtained and interpretation:

A scoring key is applied to obtain overall and average SA score.

Evaluation

Advantages:

Easy to administer.

Disadvantages:

Does not provide detailed information on SA.

Alternative Methods:

SART

Usability (ease of use, efficiency, effectiveness)

Easy to use and to apply.

Ease of use:

high

Efficiency:

high

Effectiveness:

high

Constraints concerning conditions of use:

Does not provide in depth analysis of SA issues. Due to its conciseness, SASHA should be mainly used for screening purposes. In order to obtain a more detailed insight in the way the new system might change the controller?s understanding of the task environment, it is recommended to conduct an additional interview.

Reliability:

(Internal consistency generates a Cronbachs alpha of ?=0.86

Validity:
None reported

Required effort (to conduct & to analyse):

Easy to administer

**Level of HF expertise needed (required user qualification)**

Basic knowledge of SA issues in ATM.

Low: little expertise/ training required

Other expertise needed (required user qualification):

None

**Cost Information**

Freely available from Eurocontrol.

Very low: (<100 €) low costs to purchase or free license, no special devices necessary

Experiences of use by SESAR partners (including references):

None

Reported and/or published experiences of use (including references):

Doris M. Dehn; Assessing the Impact of Automation on the Air Traffic Controller: The SHAPE Questionnaires; Air Traffic Control Quarterly , Vol. 16(2) 127-146 (2008)

[2]

http://www.eurocontrol.int/humanfactors/public/standard_page/SHAPE_Quest... [2]

Eurocontrol (draft). The new SHAPE questionnaire: a user guide.


Applicability to lifecycle phase (E-OCVM):

Can be used in simulation or in live traffic situations.

Application Area:

ATC.

Keywords:

Situational awareness, Situation awareness, rating

Short Description:
SASHA is part of the SHAPE questionnaires developed by EUROCONTROL. The questionnaire comprises 6 items which address three different aspects of SA (information extraction, integration and anticipation) on 7-point Likert scales, from which a score is calculated.

**Source URL:** http://webprisme.cfmu.eurocontrol.int/ehp/?q=node/1609

**Links**