



ICRC



Procedure for contextualizing ETS sets to ICRC settings

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1 Background

Emergo Train System® (ETS) is an academic and educational simulation system used in several countries around the world. It is used for training and testing the preparedness and management of emergencies, major incidents and disasters. The system is based on magnetic symbols on whiteboards that represent patients, staff and resources, as well as movable markers for indicating priority and treatment. The core of the system is the victim and patient banks, which includes validated protocols for patient outcome given the applied treatments. ETS can be used in conjunction with any kind of management doctrine and different guidelines. ETS is also adaptable to any organisation or way of working and does not implicate or change any methodology but gives an objective result that can be used for further development of the own organisation.

There is a continuous development of new ETS exercise material. Existing material is also translated into different languages and the material is then customized to regional conditions. This development and adaptation take place according to a certain established structure described below.

1.1 Definition Customization

Customization means necessary adaptations of the ETS training material made in order to make ETS a functional educational system within a country or a region, for example, new colours, new signs, new terminology. Customization does not include what is specified as modifications. Customization of the training material is made in collaboration with the ETS Competence Centre (ETS CC).

1.2 Definition Modification

Modification means a change in the ETS system that alters the intellectual concept and can have influence on other parts of the ETS, for example, adding of new patient measures, changes in the victim bank, changes in the patient outcome. Modifications must be approved by the ETS Competence centre.

1.3 Roles - the Customization manager.

In addition to roles used for clarifying responsibilities and functions within the ETS organisation related to ETS CC, faculty organization, Educator program, Senior Instructor, another role is appointed during the contextualization process. That is the Customization manager. The Customization manager is the person appointed by the ETS collaboration partner to be responsible for managing the contextualizing process on behalf of the collaboration partner. That is, to communicate with the ETS CC Operation's manager, organize an expert panel, organize an exercise, and composing a written report.

2 ETS Validation-process

The Emergo Train System Competence center has a defined process for development and validation of new ETS training material. This process can be considered as a step-wise process where each new step assures higher quality. The validation process is a continuous development of the material. See figure below. The process phases for validating ETS material are described below. The process is iterative, meaning that if the material is not ready for the next phase it can return to a previous phase for a more thorough preparation.

2.1 Suggestion phase

New proposed material can come as a bottom-up recommendation from an ETS faculty or ETS community members. New material needs can also be identified during the training and exercises that are being held.

2.2 Primary draft version phase

From the suggestion, a first draft version of the new material is developed. This is done using previous examples of ETS material as guideline. Number of cases, parameters, and requirements are considered. If the new material is developed by someone other than the ETC Competence Center, the material is then sent to the ETC Competence Center for further validation.

2.3 Primary validation phase

After the draft version of the new material is finished a first round of validation is performed. In this phase a medical doctor or a nurse is involved in reviewing the material. The medical personnel involved in the review are also expert users of ETS. Experts from the intended domain are involved if the new material is non-medical.

2.4 Consensus validation phase

During this phase a group of domain experts (4-6 persons) are gathered to review the new material. This phase is carried out as a focus group, with the exception that the group needs to reach a consensus about each item in the new material. The domain experts come from the field where they are working, for example for a new burn victim bank the experts need to be experts in burn care. This phase can also be conducted as a consensus-based Delphi process.

2.5 Testing phase

The testing phase involves using the material in an exercise with participants who work in the target domain, for example personnel working in a burn care unit. This testing includes evaluation of how the material was used.

2.6 Summary

All phases imply that the material is altered to be enhanced due to proposed changes. If these changes are too significant, then the material might be returned to an earlier phase to be adapted and changed in a major way.

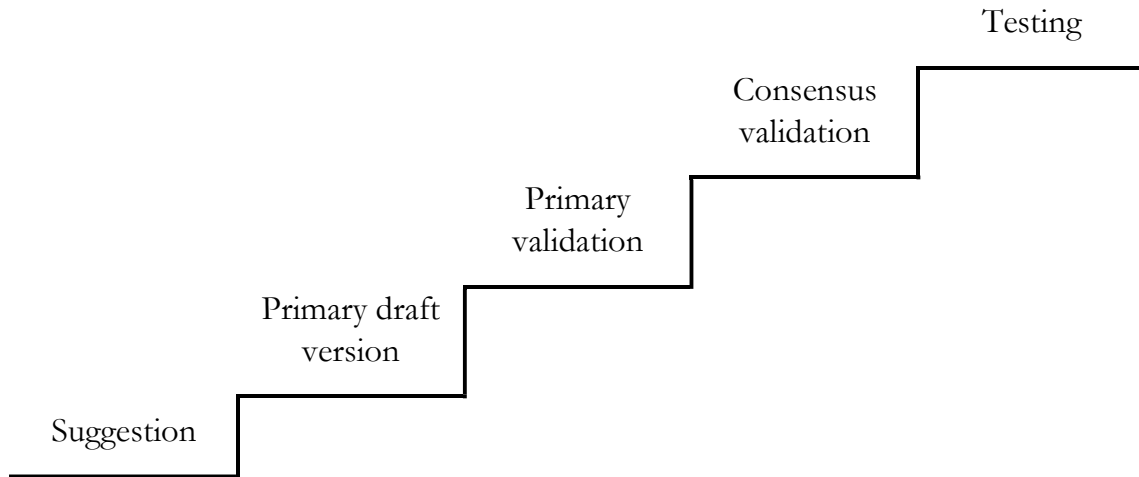


Figure 1. Visualization of the validation process.

3 Procedure

The quality of Emergo Train System© (ETS) is dependent on an accurate and thorough process for developing new victim and patient banks, including symbols that are valid for a specified target audience. When contextualizing existing victim and patient banks into new contexts, a procedure is required to be followed to maintain an accurate and valid description of each victim, patient, and symbol that can be used and evaluated in the designated target setting.

Hence, to obtain valid and verified ETS banks and symbols the process suggested here is to be followed.

Several steps are to be undertaken. The decisions during each step should be described and documented to make the process transparent and traceable. The documentation will be kept by ETS CC.

3.1 Propose set

The partner organisation suggests, to ETS CC, a set that is not yet adjusted for the target context. This context is described so that ETS CC can understand the need regarding content and extent. For example, type of injuries/trauma, number of cases, special requirements regarding customization.

3.2 Identify victims/patients

ETS CC identify patients/victims from existing patient/victim banks that can be used. These are included in a template (see Appendix A for an example) and sent to the partner organisation for review.

3.3 Select victims/patients

Jointly select and choose patients/victims for the novel set.

3.4 Identify necessary symbols

In addition, determine other ETS symbols that are necessary. For example, resources and markings expected to be used (ambulances, beds, X-rays, treatments, triage, etc).

3.5 Translate information

If required, customize and translate information on the symbols (from now on symbols denotes all ETS symbols that are involved in the set that is being contextualized, such as patients/victims, markings, resources, patient management cards etc).

3.6 Conduct workshop

The partner organization is responsible for conducting a workshop/expert group meeting where the content, appearance, and language used on the symbols are reviewed, assessed, and decided upon. Each symbol should be addressed and reported on in the documentation. This

step requires that one person is appointed Customization manager responsible for overseeing the process, composing the documentation, and organizing the workshop/meeting. Number of experts can vary between 2 to 4, depending on number of symbols to review. Every symbol needs to be reviewed by 2 experts to minimize risk for mistakes. For example, each expert can be assigned the symbols to review prior to the workshop/meeting. During the meeting each symbol is addressed and if the experts have different opinions about a symbol that symbol is discussed and changes that the experts, in consensus, approve of are presented. Proposed instructions to give the expert panel reviewers is found in Appendix B.

3.7 Verification exercise

When all symbols have been approved they need to be tested in an exercise.

1. Construct a scenario where the set is used.
2. Educate instructors about the set
3. Identify and recruit participants
4. Conduct exercise
5. Evaluate the set regarding: usefulness, easy to use, correct information, supports training, supports instructors in teaching, applicable in intended LMIC context. A form for evaluating the set is found in Appendix C. This form can be modified to address the correct questions.
6. The testing should be reported in a stand-alone report including descriptions of scenario, instructors, exercise participants, reference to the set used, roles the participants act in during the exercise, outcomes (patient outcome, quality indicators, subjective evaluation by participants and instructors, fulfilment of learning objectives). The involved instructors should also be asked to write down a short reflection on pros and cons using the set.

3.8 Reporting

The report describing the contextualization process should include:

A background and a purpose (why is the set requested), a description of how the steps using the procedure heading above (Propose set, Identify victims/patients, Select victims/patients, Identify necessary symbols, Translate information, and Conduct workshop). The verification exercise should be presented in a in a chapter in the report or in a stand-alone report to make the evaluation process transparent and the outcome clear. Thus, the evaluation of the exercise should be given separate attention. A proposed structure for the verification exercise is: Scenario description, Set description, Participants, Instructors, Training context, Evaluation survey, and Results (from evaluation questionnaires and text questions).

The purpose of the report is to document what was done, to make the process transparent, and to be used as a basis for decision concerning the set.

4 Appendices

Appendix A – Example of template that can be used for ETS material to be included in the contextualization process.

Appendix B – Instructions for expert panel reviewers

Appendix C – Information about exercise

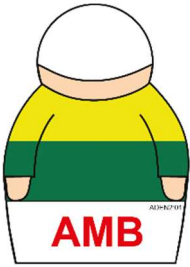
Appendix D – Evaluation form for instructor(s)

Appendix E – Evaluation form for exercise participants

Appendix A

Example of template that can be used for ETS material to be included in the contextualization process.

Is the set intended for any LMIC-setting? Or is it defined for a certain LMIC-setting?

Nr	Title	Symbol	Desired number of symbols	Comments (e.g. suggestion of appearance, colour)
1	Ambulance staff			

Appendix B

Instructions for expert panel reviewers

Expert panel review

General information for workshop with expert panel reviewers

The purpose of the workshop is to identify which symbols are needed to conduct an ETS exercise and how these symbols need to be customized to be useful in Low- and middle income countries (LMIC). If a general LMIC set is difficult to define, it could be useful to choose a LMIC context that the expert panel is familiar with and that is intended for running an ETS exercise.

Go through each symbol described in appendix A separately and let the expert panel give opinions. Think about: where should the material be used and in what context? Consider language and cultural codes. Resources should reflect the environment in which the material is used. Which symbols are ok, which need to be adjusted? Are the colours and nomenclature ok or is there a need for any changes? How many of each symbol is needed? Are there a need for additional symbols? Take notes during the workshop and add them to appendix A. Always refer to each symbol's article number. Send the document to ETS CC after the workshop. We will review the notes and make changes to the symbols.

Staff symbols

Think about colours and titles of the staff symbols; what is useful in LMIC-settings? Tip: it is possible to add blank staff symbols (without a title) where you can write a title with a pen before an exercise.

Vehicles

What pre-hospital resources are available and used in the intended LMIC setting? The resources in this set should illustrate this.

Signs

The signs in ETS are used to design and organize the work on the whiteboards during an ETS exercise. Are all signs useful in a low and middle-income setting? Are the colours correct?

Treatment markings

Are the markings correct and useful in a low and middle-income country? Are the amount of each marking correct or should it be adjusted?

Other symbols

This section concerns photos and other extra symbols that are used for setting up scenarios with ETS. Are they useful, should anything be changed or removed?

Patients and management cards

ETS consist of a number of victim banks which the ETS instructor can order to use for exercises. All ETS patients are categorized into different patient outcome categories depending on their injury. The patient outcome categories are developed by national and international expertise in various medical specialities and are regularly validated in current research and science. Depending on what intervention is made and within what time after the injury, the patient risk preventable complication or preventable death. ICRC have requested to have one bank with a mix of patients from different victim banks. Please use the descriptions of the different patient outcome categories for each ETS victim bank and choose:

(A) What categories of patients is required, and

(B) How many patients of each category you want to be included in the LMIC set.

The available victim banks are: Trauma victim bank, Burn victim bank, Penetrating trauma victim bank, Bomb/blast victim bank, Paediatric victim bank, Uninjured victim bank. For production reasons, the total number of patients should be in the even 50s; for example 50, 100, 150 etc.

Appendix C

Information about exercise

The exercise is designed to test the new Emergo Train System LMIC set. The set has been developed in collaboration between ICRC and ETS Competence Center.

We are interested in how you perceive using the set, how you experience training with ETS, and if there are any modifications/adjustments that you see are required before the LMIC set is finalized? The instructors will ask you about this using a questionnaire. You are welcome to give comments to the instructor, oral or written.

Informed consent, example that will need to be edited

The goal of the questionnaire is to evaluate the ETS material that you have used in today's exercise. To answer the questionnaire is voluntary, you can choose to quit responding at any time without any personal consequences for you. Your answers will be anonymized and analysed in order to provide feedback to improve the ETS material. Your answers might be used for research purposes and published in the scientific community. The material will be handled according to GDPR (General Data Protection Regulation; EU regulation 2016/679). As an individual you will not be traceable in the material. If you have any questions regarding the questionnaire you can talk to an instructor or email info@emergotrain.com.

I have read and understand this information (above).

(YES/NO)

I give consent to my responses being used for research purposes as stated above (please circle the appropriate answer)

(YES/NO)

Name: _____

Location: _____

Date: _____

D13. Does use of this ETS material contribute to improved possibilities for training?

1 2 3 4 5 6 7
Not at all Absolutely

D14. Was the ETS material useful for you as an instructor?

1 2 3 4 5 6 7
Not at all Absolutely

D15. Did the ETS material support you in instructing/training the participants?

1 2 3 4 5 6 7
Not at all Absolutely

D16. Do you think that this version of the ETS Humanitarian set is ready to be shipped and used?

1 2 3 4 5 6 7
Not at all Absolutely

D17. What worked well with ETS in the exercise? _____

D18. What needs to be changed with ETS for it to be useful in running exercises?

D19. Comments: _____

Appendix E

Evaluation form for exercise participants

Participants Questionnaire

Date: _____ Organisation responsible for the exercise: _____

Exercise location: _____

ETS material being tested: _____

D1. My profession is: (**Doctor /RN /Paramedic/other [specify below]**)

Other: _____

D2. I have worked in this profession for _____ (years).

D3. My function/role in the exercise was: _____

D4. I am a certified ETS instructor: **(YES/NO)**

D5. Your previous experiences of ETS: **(YES/NO)**

D6. If you have used ETS before, in how many exercises have you participated: _____

Below, please circle the number that corresponds best with your opinion.

D7. Is the information on patients and management cards understandable?

1 2 3 4 5 6 7
Not at all Absolutely

D8. Is the information on patients and management cards sufficient to act upon?

1 2 3 4 5 6 7
Not at all Absolutely

D9. Is the ETS concept "patient outcome" understandable in this material (that is, how a patient's state relates to his/her patient outcome)?

1 2 3 4 5 6 7
Not at all Absolutely

D10. Does management of the patients give a realistic outcome?

1 2 3 4 5 6 7
Not at all Absolutely

D11. Does use of this ETS material contribute to improved training?

1 2 3 4 5 6 7
Not at all Absolutely

D12. Do you think that the knowledge and skills that you have developed during the exercise are applicable in real-world situations?

1 2 3 4 5 6 7
Not at all Absolutely

D13. Did you feel immersed in the exercise?

1 2 3 4 5 6 7
Not at all Absolutely

D14. Did the exercise make you more confident in dealing with a real-world situation?

1 2 3 4 5 6 7
Not at all Absolutely

D15. Was the material useable for you as a participant?

1 2 3 4 5 6 7
Not at all Absolutely

D16. Did the exercise give you new theoretical insights?

1 2 3 4 5 6 7
Not at all Absolutely

D17. Did the exercise give you new practical skills?

1 2 3 4 5 6 7
Not at all Absolutely

D18. What did you learn? _____

D19. Comments: _____
