

전문가 의견 수렴 워크숍 과정을 통한 의료시뮬레이션 용어 번역 표준화 작업

정현수¹, 제상모², 임태호²

¹연세대학교 의과대학 응급의학교실, ²한양대학교 의과대학 응급의학교실

Standardizing Korean translation of healthcare simulation terminology: workshop proceedings and consensus statements from the Korean society for simulation in healthcare

Hyun Soo Chung¹, Sang Mo Je², and Tae Ho Lim²

¹Department of Emergency Medicine, Yonsei University College of Medicine

²Department of Emergency Medicine, Hanyang University College of Medicine

Background: Simulation-based research is becoming a major focus area for the advancement of healthcare simulation in Korea. However, many theoretical and conceptual frameworks, rules and principles, and system development are rooted from the Western culture. Therefore, language is a challenge. At times, translation of the materials and terminology are difficult to translate, especially when it does not exist in Korean language. A lack of consensus exists about terminology translation and interpretation of healthcare simulation language across the users in Korea. **Methods:** This work is a proceeding of a consensus workshop, intended to clarify and standardize translation of healthcare simulation terminology into Korean by reaching consensus among a group of experts. **Results:** Out of 40 invited experts, 31 (78%) agreed to participate but 3 people failed to show up. The consensus was a 1-day workshop. The panels were divided into four groups. Each group would discuss and come up with unanimous decision of translations. The final consensus was reached by majority votes. The participants were composed of six different disciplines in the healthcare simulation field. A total of 190 terminologies were selected for translation. At the final voting, 97% of terminology reached consensus with approval vote ranging from 54–93%. **Conclusions:** Although the validity and reliability have not been scientifically established for a formal consensus, achieving standardization of translation of common healthcare simulation terminology into Korean would provide a foundation for furthering the advancement of the practice and research in healthcare simulation.

Keywords: Consensus, Healthcare, Simulation, Standard, Terminology.

INTRODUCTION

Over the past two decades, the use of simulation to improve the quality and safety of patient care has rapidly increased.¹ During this time, simulation-based healthcare education (SBHE) has contributed to the

growth of learner knowledge, skills and attitudes.²⁻⁴ Nearly every healthcare discipline is now using some form of SBHE for teaching and learning.^{5,6} This growth is not limited to North America, Europe and Australia, but also in Asia. This is evident by the recent Asia-Pacific Meeting on Simulation in Healthcare that was held in Hong Kong.⁷ This

Corresponding author: Hyun Soo Chung

Department of Emergency Medicine, Yonsei University College of Medicine, 211 Eonjuro, Gangnam-gu, Seoul 135-720, Korea
Tel: +82-2-2019-3030 Fax: +82-2-2019-4820 E-mail: hsc104@yuhs.ac

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meeting attracted more than 400 attendees from more than 15 different nations. With the establishment of a formal academic society,⁸ South Korea aims to build momentum for the further integration of SBHE in the Asian culture. Since the medical education reform movement began 15 years ago, several factors have led to the growth and utilization of SBHE in Korea (Fig. 1). Curricula were changed to aim for a more immersive and experiential learning and clinical skills evaluations were integrated as part of the national licensing examination. As a result, medical schools accreditation included evaluation of a dedicated clinical skills lab and clinical clerkship duration was increased.

Although the use of simulation as a methodology for learning continues to grow globally, research in this field is still at an early stage. Research outcomes are essential in advancing SBHE to benefit the patients and healthcare professionals. Recently, the simulation community made efforts to develop a research agenda to identify future directions for educational simulation-based research.⁹ With the widespread of SBHE in Korea, simulation-based research should be a major focus area for the advancement of the field. However, the dissemination of innovation and change in medical education including SBHE has been influenced by a Western bias. Many theoretical and conceptual frameworks, rules and principles, and system development are rooted from the Western culture.^{2,10} Therefore, language is a challenge. At times, translation of the materials and terminology are difficult to translate, especially when it does not exist in Korean language. Even in the Western society, many of the SBHE terminologies are yet to be standardized.^{11,12}

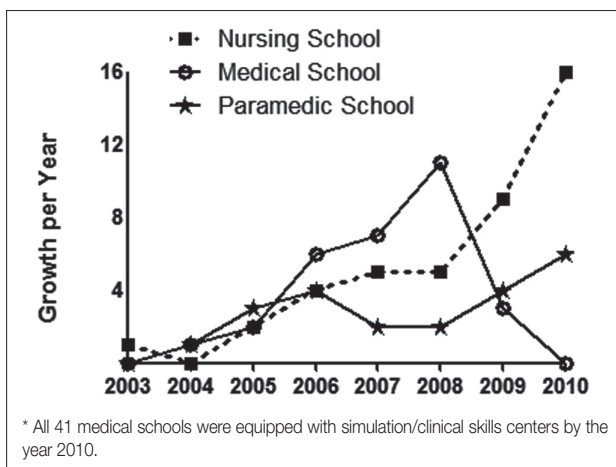


Fig. 1. Growth of simulation/clinical skills centers in South Korea.

A lack of consensus exists about terminology translation (how do we call it?) and interpretation (what does it mean?) of healthcare simulation language across the users of SBHE in Korea. For example, in the literature, as well as in practice, the terminology “simulation” is translated into several different words and the interpretation of simulation type is varied amongst the users. Another example is when the terminology “assessment” and “evaluation” is translated into the same Korean word and used interchangeably. The different uses of terminology can lead to confusion about what is being assessed or evaluated. To improve the field of assessing or evaluating simulation work, it is of utmost importance to reach consensus about the translation and interpretation of healthcare simulation terminology.

The purpose of this article is to present the proceedings of a consensus workshop, intended to clarify and standardize translation of healthcare simulation terminology into Korean by reaching consensus among a group of experts.

MATERIALS AND METHODS

1. Steering committee

A Steering Committee was formed to initiate and guide the study. Members of the Steering Committee are the authors of this article. The committee was responsible for the selection of the panel members, gathering relevant terminologies and definitions, designing methods for consensus agreement, analysis of results, formulation of feedback reports, and writing up the workshop proceedings. The members of the Steering Committee did not take part as panel members.

2. Preparation for the consensus workshop

The Steering Committee systematically searched the literature, articles and textbooks to gather all possible relevant terminologies and pertinent definitions that are commonly used in healthcare simulation.¹³⁻¹⁶ Additional terminology was gathered through online survey sent to the selected panel members. For reference purposes, the initial draft list of terminology was translated with the commonly used words in current practice. All the terminology was defined using various references.¹⁷⁻¹⁹

The definitions went through the process of translation and reverse translation to be referenced during the workshop.

3. Selection of panel members

We decided to invite 40 experts to participate in our panel. This was based on the amount of resource and expenses available. We aimed to include the diverse disciplines practicing healthcare simulation in their daily activities. They were faculty of medical school, nursing school and paramedic school, clinical physicians and nurses, faculty from medical education department, coordinator of simulation center, and technology experts.

4. Procedure of the consensus workshop

The consensus was a 1-day workshop (Table 1). It consisted of orientation of the workshop, group sessions, and final voting session with discussions. The panels were divided into four groups. There were 7 experts in each group. A facilitator and recorder were selected from each group. Each group was given the list of terminology they will be responsible to translate. They were also provided with the definitions and other reading materials for references. After the first session, the groups exchanged their list (Group A with B and Group C with D). Each group would perform the same process as in their previous session but with new sets of words (the group will be blinded to the consensus formed by the previ-

Table 1. Consensus workshop schedule

Time	Event
07:30-08:00	Registration
08:00-08:15	Welcome message
08:15-09:15	Final list-up of terminology
09:15-09:30	Break
09:30-17:30	Group session I
09:30-12:00	Session I-A
12:00-13:00	Lunch
13:00-15:30	Session I-B
15:30-15:45	Break
15:45-16:45	Rating
16:45-17:45	Further discussion and voting
17:45-18:00	Wrap-up

ous working group). The whole group will meet to finalize the consensus.

5. Consensus

The initial group consensus was considered achieved when the vote was unanimous for all the terminology they translated within the group. The final consensus, which was performed with all the participants voting, was reached when more than 51 % of all the participants approved for each terminology. When a consensus could not be met, the Steering Committee would later meet and come up with an appropriate translation, and then finalize it through online voting from previously selected expert panels.

RESULTS

1. Panel members

We invited 40 experts to participate: 31 (78%) agreed to participate but 3 people failed to show up due to personal reasons. The reason for the 9 experts that did not participate was due to lack of time. All the panel members were members of the Korean Society for Simulation in Healthcare. Their main roles in their disciplines were educators, researchers and developers of simulation learning. The number of participants for medical school faculty, nursing school faculty, paramedic school faculty, clinical nurse, coordinator, and technology experts were 14, 6, 1, 2, 3, and 2, respectively. The names of all panel members can be found in the Acknowledgments section.

2. Consensus

A total of 190 terminologies were selected for translation. Each group was designated 95 terminologies to be discussed. Unanimous decision was reached during the group sessions for all the designated terminology to be translated. At the final voting, 5 terminologies out of 190 were not able to reach a definite conclusion. The terminology that reached the consensus approval vote ranged from 54–93%. The 5 words were later discussed in more depth by the Steering Committee. After a decision from the committee, the recommended translation was sent to the same

selected panels for an online vote. The vote was unanimous for all 5 words. The final consensus terminology is shown in the Appendix.

DISCUSSION

In a multi-disciplinary consensus workshop for standardizing Korean translation of healthcare simulation terminology, 97% of the words reached consensus through majority voting. Our aim of reaching consensus was to provide clarification and standardization on these confusing, and sometimes complex terminologies, hopefully leading to more uniformity in the practice and assessment of healthcare simulation.

A formal consensus method was used. This method has become increasingly visible as tools for solving problems in health and medicine. Their main purpose is to define levels of agreement on controversial subjects, and they have been used in a wide variety of settings. National Institutes of Health, Centers for Disease Control, and American College of Physicians are just few of the organizations that uses formal consensus methods to decide important policies. We used the nominal group method instead of the Delphi method. Delphi method has the advantage of enabling participant to express views impersonally and has no geographical constraints since the survey is completed electronically. But panelists tend to become fatigued after couple of rounds, and personal contact can be difficult when needed.²⁰ By selecting the nominal method, panels were able to achieve the task in a concentrated time frame, and open discussions on site could produce more useful and meaningful results.

This was the first of these kinds of workshop in Korea. The workshop focused on standardizing translation of terminology specific to a certain field of medical education. SBHE is a relatively new field in Korea, and every effort should be made to develop a strong foundation. Foundation includes building a concrete infrastructure for furtherance of the field in healthcare education. Developing a website for communication and networking, sharing experiences and resources through scientific meetings, developing training curriculum (including faculty development), mentorship with experienced educators in this field, collaboration with developed societies, and development of a research agenda are all essential infrastructures for a newly formed academic field. Standardization of terminology is the fundamental basis for this infrastructure. Using a

“common language” has many advantages. It attracts and assures the users by making the words accessible. It would provide better utilization of resources. It is able to develop and maintain best practice and research in this field because of better communication and networking.

To ensure that the momentum generated at the workshop continues, we created a task force, chosen primarily to address three things: 1. Continue monitoring the usability of the words from the consensus statement; 2. Manage the database of current and future additional terminology; and 3. Explore potential research application. The task team has developed an online terminology search engine for the users to access the terms more conveniently. The team would continue to monitor the usability of the words by reviewing articles and presentations from simulation related journals and meetings. To ensure that the results of the consensus process are disseminated to all interested members of the medical community and the public, the Korean Society for Simulation in Healthcare will endeavor to present the results to various related meetings and conferences, and distribute the final consensus statements to a mailing list of all the members of the society.

Although the validity and reliability have not been scientifically established for a formal consensus, the method does play a pivotal role in establishing guidance for issues in healthcare. By structuring a formal consensus workshop, we were able to achieve standardization of translation of common healthcare simulation terminology into Korean. This would provide a foundation for furthering the advancement of the practice and research in healthcare simulation.

1. Conflicts of interest

The authors have no conflicts of interest and any copyright constraints.

2. Acknowledgement

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Appendix. Final consensus on translated terminology

English	Korean	English	Korean
Accreditation	인증, 인정, 신임	Facilitation	촉진
Adult learning	성인학습	Facilitator	촉진자
Assessment	사정	Facility	시설
Attitude	태도	Faculty	교수(진)
Audiovisual equipment	시청각장비	Faculty development	교수(진) 개발
Avatars	아바타	Feasibility	실행 가능성
Barriers	장애(물)	Feedback	피드백
Bedside teaching	병상교육, 현장교육	Fidelity	충실도, 충실성, 재현성
Behavior	행위	Formative evaluation	형성평가
Blended learning	블랜드드 러닝	Framework	구조
Certification	증명(서), 자격(증)	Full-task trainers	종합술기모형
Checklist	체크리스트	Full-task training	종합술기훈련
Clerkships	임상실습(생)	Gaming	게이밍
Clinical competence	임상역량, 임상능력	Global performance assessment	포괄수행사정
Clinical scenario	임상 시나리오	Goal	목적
Cognitive aid	인지적 보조	Guidelines	지침
Collaboration	협력	Haptic	햅틱
Communication	의사소통	Haptic devices	햅틱장치
Communication skills	의사소통술	Healthcare simulation	의료시뮬레이션
Competence	역량, 능력	High-fidelity (healthcare) simulation	고충실도, 고충실성, 고재현성 (의료) 시뮬레이션
Competency	수행역량, 수행능력	High-technology (healthcare) simulation	하이테크놀로지(의료) 시뮬레이션
Computer-based simulation (screen-based simulation)	컴퓨터(화면)기반 시뮬레이션	High-stakes assessment	전문자격시험
Confederate (embedded actor, simulated person)	역할 연기자	Human factor	인적 요인, 인적 요소
Continuing medical education (CME)	의학보수교육	Hybrid simulation	하이브리드 시뮬레이션
Control room	조정실	Implementation	시행, 수행
Coordinator	코디네이터	Individualized teaching	개별교육
Course	과정	In situ simulation	현장 시뮬레이션
Crew resource management	승무원 자원 관리	Instructor	강사, 교수자
Crisis resource management	위기(상황) 자원 관리	Interaction	상호작용
Critical thinking	비판적 사고	Interdisciplinary learning	학제간 학습
Curriculum	교육과정	Interprofessional education/training	직종간 교육, 직종간 훈련
Debriefing	디브리핑	Interprofessionalism	직종간전문성
Deliberate practice	주도면밀한 실습, 훈련, 연습	Interprofessional learning	직종간학습
Design	디자인	Intraprofessional	직종내
Development	개발	Knowledge	지식
Device	장치, 기구	Learner-centered	학습자 중심
Didactic lesson	설교식 수업	Learning environment	학습 환경
Direct observations	현장 지도	Learning management system (LMS)	학습관리체계
Director	책임자	Learning objective	학습 목표
Distributed simulation	이동형 시뮬레이션	Lecture	강의
Effectiveness	유효성, 유효도	Lesson learned	학습 결과
Efficiency	효율성	Logistics	물류 관리
E-learning	이러닝	Low-technology (healthcare) simulation	단순기술(의료) 시뮬레이션
Engineering fidelity	공학적 충실도, 충실성, 재현성	Mannequin (manikin)	마네킹
Environmental fidelity	현장 충실도, 충실성, 재현성 환경 충실도, 충실성, 재현성	Mannequin-based simulation (manikin-based simulation)	마네킹기반 시뮬레이션
Equipment	장비	Mastery learning	완전학습
Evaluation	평가	Medical education	의학교육
Experiential learning	경험학습	Mobile simulation (portable simulation)	이동형 시뮬레이션
		Mobile simulator (portable simulator)	이동형 시뮬레이터

Appendix. Final consensus on translated terminology (Continued)

English	Korean	English	Korean
Mock	모의	Scheduling	일정잡기
Model	모델	Scoring	채점
Module	모듈	Script	대본
Motivation	동기부여	Self-assessment	자기사정
Moulage	분장	Session	세션
Multidisciplinary	다학제간	Setup	준비, 설치
Multiprofessional education	다직종 교육	Simulated patient (situated patient)	모의 환자
Needs	요구	Simulation	시뮬레이션
Non-technical skills	비기술적 술기	Simulation-based	시뮬레이션기반
Nursing simulation	간호 시뮬레이션	Simulation center	시뮬레이션 센터
Objective structured clinical examination (OSCE)	객관 구조화 진료 시험	Simulation class	시뮬레이션 수업
Observation	관찰	Simulation fidelity	시뮬레이션 충실도, 충실성, 재현성
Obstetric simulators	산과 시뮬레이터	Simulation program	시뮬레이션 프로그램
Orientation	오리엔테이션	Simulation scenario	시뮬레이션 시나리오
Outcome	성과	Simulator	시뮬레이터
Outcome-based education	성과중심교육	Situational awareness	상황인식
Part or partial-task trainers	부분술기모형	Skills	술기
Part or partial-task training	부분술기훈련	Skills station	실습장
Participant	참여자	Skills-trainer (task-trainer)	술기모형
Patient safety	환자안전	Small group teaching	소그룹 교육
Peer review	동료평가	Specialist	전문가
Performance	수행	Standard	표준
Performance-based assessment	수행기반평가	Standardized patient	표준화 환자
(Post) graduate medical education	졸업후교육	Standardized patient simulation	표준화 환자 시뮬레이션
Practice	실습, 훈련, 연습, 실무	Summative evaluation	총괄평가
Prebriefing	사전설명	Surgical simulators	수술 시뮬레이터
Problem-based learning (PBL)	문제바탕학습, 문제중심학습	Survey	설문조사, 서베이
Procedural trainer	술기모형, 시술모형	Systems engineering	시스템 공학
Procedure	시술, 절차	Team	팀
Professionalism	전문직업성	Team building training	팀강화훈련
Program	프로그램	Teamwork	팀워크
Programming	프로그래밍	Technical program	기술적 프로그램
Props	소품	Technique	기술, 기법
Psychological fidelity	심리적 충실도, 충실성, 재현성	Template	서식, 양식, 템플릿
Psychomotor	정신운동(의)	Test	시험
Quality assurance	질 보증, 질 보장	Theory	이론
Quality of care	의료의 질	Trainer-centered	교육자중심
Quiz	퀴즈	Training course	훈련과정
Realism	현실성	Train-the-trainer	강사양성, 교육자양성
Realistic	현실적	Transdisciplinary	초학문적
Reflection	성찰	Undergraduate education	학부교육
Reflective learning process	성찰학습과정	Validity	타당도, 타당성
Reliability	신뢰도, 신뢰성	Virtual patient	가상 환자
Research	연구	Virtual reality	가상 현실
Residency	전공의 과정	Virtual simulations	가상 시뮬레이션
Resident	전공의	Workshop	워크숍
Scenario	시나리오		