LIFE: International Journal of Health and Life-Sciences
ISSN 2454-5872

Yamamoto et al., 2015

Volume 1 Issue 1, pp. 227-237

Year of Publication: 2015

DOI- https://dx.doi.org/10.20319/lijshls.2015.s11.227237

This paper can be cited as: Yamamoto, E., Tanaka, T., Hyodo, Y., & Hatanaka, K. (2015). Examination of a Social Skills Training Program Related to Transmitting and Taking Directions in Basic Nursing Education. LIFE: International Journal of Health and Life-Sciences, 1(1), 227-237.

EXAMINATION OF A SOCIAL SKILLS TRAINING PROGRAM RELATED TO TRANSMITTING AND TAKING DIRECTIONS IN BASIC NURSING EDUCATION

Emiko Yamamoto
Graduate School of Humanities and Social Sciences Okayama University, Okayama, Japan,
pe3l5i7o@s.okayama-u.ac.jp

Tomoko Tanaka
Graduate School of Humanities and Social Sciences Okayama University, Okayama, Japan

Yoshimi Hyodo
Graduate School of Health Sciences Okayama University, Okayama, Japan

Kaori Hatanaka
Doshisha Women's College of Liberal Arts, Kyoto, Japan

Abstract

In order to provide safe medical care, accurate information transmission is essential. Incorrect information transmission could lead to a serious accident. We developed a social skills training (SST) educational intervention to enhance the skills of nursing students in information transmission, specifically delivering and receiving instructions. The participants were second- year nursing students in a three-year program (N = 120, Mean age = 20.3, SD = 2.2). SST was performed after a 90-minute lecture on transmitting and taking directions We then administered a five-part self-evaluation questionnaire that found that the nurses rated their skills in these areas significantly

higher immediately after SST and that this effect was maintained 6 months after training In fact, three of the five skills for taking direction (verbal confirmation, F(2, 176)= 18.63, p < .001; confirmation of diagnosis, F(2, 176) = 34.24, p < .001; and uncertain execution, F(1.61, 141.75) = 57.02, p < .001), and one of the three skills for transmitting directions (reporting confirmation, F(2, 176) = 33.14, p < .001) increased over time, whereas the others, such as appointment of a suitable person, level adjustment, and evaluation and confirmation of the implementation process, did not The SST program on transmitting and taking directions thus had some effect on nursing students' skills, but it was largely limited to skills related to implementing instructions and ideas, which significantly increased and in some cases persisted Skills that require outreach to others are more difficult to foster; in particular, in the first half of the learning schedule, it is necessary to strengthen instruction in skills related to uncertain execution, verbal confirmation, and confirmation of diagnosis.

Keywords

Nursing Student Education, Social Skills Training, Patients Safety, Communication

1. Introduction

Failure of communication among health care teams is the result of errors and negative health care (Brock et al., 2013), and steps to address this issue for example by improving practitioner self-efficacy, and thereby improve patient safety, have been taken in recent years () Moreover, surgeons, nurses, and anesthetists can promote team cooperation and reduce communication failure by using a preoperative checklist targeting key areas (Lingard et al., 2008) However, these are intended for operating rooms and emergency scenes, for use among professionals with qualifications and experience; tools and studies for and among learners, such as nursing students, are very few despite the fact that it is their performance that is most likely to be problematic Tella et al (2015) have pointed out that patient safety education rooted in evidence-based learning is required, related to clear communication, error reporting, and teamwork training Situational awareness as an element of interdisciplinary teamwork and the closed-loop communication it requires is operational zed with the acronym "situation, background, recommendation, response" (SBAR-R) under the shared mental model (AHRQ, 2007;Miller et al., 2008, Riley et al., 2008).

In particular, nurses have an important rolein team communication, related to the transmission of critical examination information (Miller et al., 2009); nurses, it is said, are on the forefront of patient safety (IOM, 2003; Miller et al., 2009). Nurses are required to recognize and interpret clinically important cues, and to inform the shared mental model of the team by speaking their awareness of their own situation (Miller et al., 2009).

Thus, Tella et al. (2015) point out the need for communication training for nursing students. Training in this area often suffers at present for reasons related to lack of resources, such as shortages of trainers or use of mannequins instead of real people in training interactions to save money (Amal Z et al., 2016).

In the effort to develop strong and economical tools for nursing students' clinical communication education, we developed an education program to enhance their communication skills, consisting of a social skills training (SST) intervention for nurses that focused on transmitting and taking directions.

2. Methods

2.1 Participants

The participants were second-year nursing students enrolled in a three-year nursing program (N = 120, Mean age = 20.3, SD = 2.2).

2.2 Date of intervention

The SST intervention was performed in class in January 2015after a 90-minute lecture on transmitting and taking directions.

2.3 Instruments

Pre- and post-SST self-assessment instruments were applied to assess acquisition of skills for transmitting and taking directions, as well as a delayed post-assessment 6 months later.

2.3.1 Skills for transmitting and taking directions

A scale was set up based on previous studies fromYamamo to (2015), AHRQ (2007), Miller et al., (2008), and Riley et al. (2008).

- Skills for taking directions: verbal confirmation, compliance with instruction, uncertain execution, validity, appointment of a suitable person (5 factors 13 items)
- Skills for transmitting directions: reporting confirmation, confirmation and valuation of the implementation process, level adjustment (3factors, 11items).

Appraisals were done using a five-point Liker-type scale running from 1 (cannot be at all sure) to 5 (can be sure) (Table1).

Table1: *Skills for Taking Directions and Skills for Transmitting Directions*

Skills	***Definition***	***Example Behaviors***
Skills for taking directions	*Checking understanding verbally* *Indication received dedication* *Validity Uncertain execution* *Forwarding to the appropriate person*	*Issue instruction content orally* *Even when you are busy, stop and listen carefully* *Consider on your own whether instructions are reasonable* *Meantime run even if there is a question to the instruction* *Content* *People with specific needs or questions are forwarded to the appropriate specialists*
Skills for transmitting directions	*Reporting confirmation* *Level adjustment* *Confirmation and evaluation of the implementation process*	*Seek reports or notes on the item at hand* *Observe whether instructions are executed successfully, and determine the necessary support* *Instruction content and explanations are devised to allow instructees to fully understand action*

Yamamoto et al. (2015)

2.3.2 Factors leading to information transmission errors

The (negative) learning effect in which incorrect information transmission causes error is rooted in the "Swiss cheese model "wherein error overlap soon compromises the integrity of the cognitive conceptual diagram and leads to serious accidents (Reason 1997). There were11itemson the understanding of the mechanisms of understanding and error generation, potentially proceeding to a serious accident Appraisals again used a five-point Linker-type scale, from 1 (cannot understand at all) to 5 (can understand clearly).

2.3.3 SST and prediction of execution in clinical practice

For applicability of skills in the clinical context, the researchers created their own five items: on the Linker-type scale, 1 (cannot be at all sure) to 5 (can be sure).

2.3.4 Evaluation of educators' SST ability

Respondents were asked to evaluate their clinical leaders on 5 items,rated from 1 (cannot be at all sure) to 5 (can be sure).

2.3.5 Structure of the program and investigation procedure

The configuration of the program alternated between A) implementation of human error experience and B) implementation of a lecture on past cases of misbelieved or misperceived instructions leading to error and in some cases serious accident. Subsequently, we implemented SST

in a scenario based on the lecture. After the program, the questionnaire was completed. (Fig. 1, Fig. 2, Table2.)

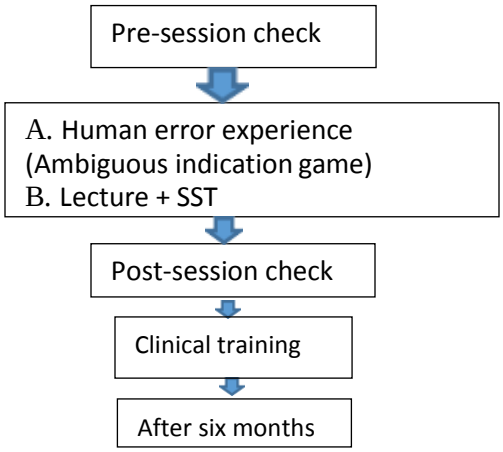

Figure 1: *Investigation procedures*

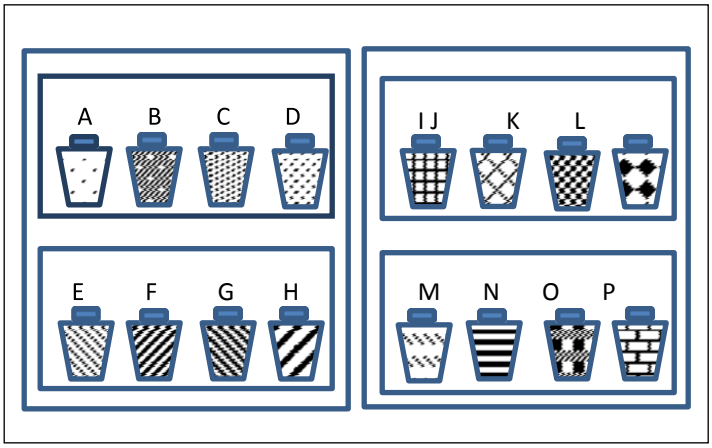

Figure 2: *Image from ambiguous indication game*

Table 2: A) human error experience/B) lecture scenario (SST)

A. Ambiguous indications game for human error experience
The lecturer displays a shelf of medicine and gives ambiguous instructions regarding which medicine to take, noting that patients have died in the past when the wrong medicine was chosen.(See Figure2).
B. Scenario for SST instruction
1.Profile of the target patient *(1) Age, sex: 73-year-old female (2) Disease: chronic obstructive pulmonary disease;oxygen 1 L/minute during administration.* *2. Scenario: The time is 10:00 a.m. A nursing student finishes measuring the vital signs of a patient, and receives an instruction "to select and bring an oxygen cylinder that is suitable for the patient." The instruction is vague, but if one selects an oxygen cylinder whose oxygen level is low, the patient will be in danger of falling into respiratory distress. At the time of receiving the instruction, a nursing student should calculate the amount of oxygen that should remain in the cylinder from the required volume.*

2.3.6 SST: Skills practice through role-play

The class divides into group's of three, including one person freely role-playing the nurse role and two observers. The role-player received suggestions regarding how to receive and question/confirm their instructions from the other students and the teachers.

2.3.7 Statistical Analysis

SST pre-, post-, and delayed post-results were carried out using One-way repeated measures with SPSS 22 and analysis of variance (ANOVA).

3. Results

3.1 Learning after SST

After SST, we evaluated the students' learning about errors caused by information transmission. Those who answered that they had learned it "well/very well" comprised 91.0– 98.9%; indicating that the learning content had been well understood (Table 3).

Table 3: *Understanding of learning after SST*

	M	*SD*	*Understanding of learning (%)*
I experienced that small errors occurred at the same time and led to a serious accident	*4.3*	*(0.6)*	*91.0*
It was understood that checking yourself is a good idea if you want to get a sense of the actual situation	*4.5*	*(0.5)*	*98.9*
To hesitate again hear to the nurses were able to understand that to create a situation that elicits the incident	*4.7*	*(0.5)*	*98.9*
Even if difficult to confirm, it was possible to understand the significance of transmitting instructions well	*4.4*	*(0.5)*	*97.8*
It was thought less susceptible to psychological damage to learn while failure In a scene that even be forgiven wrong	*3.4*	*(1.0)*	*97.8*
I understand that to act without thinking is the beginning the problem	*4.4*	*(0.6)*	*94.4*
I was able to understand that there is a skill to receiving and transmitting instructions	*4.6*	*(0.5)*	*94.4*
I was able to imagine what kind of action is occurring at the scene when receiving the instructions	*4.3*	*(0.6)*	*93.3*
I was able to understand the meaning of preventing medical accidents on a team by participating in SST	*4.4*	*(0.6)*	*95.5*
I capitalized on my SST experience by repeatedly remembering it in training situations	*4.3*	*(0.6)*	*94.4*
Experience causing incidents makes one even more careful in the future	*4.4*	*(0.6)*	*94.4*

3.2 SST execution prediction in clinical practice

The results for the SST execution prediction revealed that those who answered, "always/maybe can perform "accounted for 65.2–94.4%; therefore, the willingness to use skills was relatively high (Table 4).

Table 4: *The Execution Prediction in Clinical Practice*

N=31

	M	*SD*	*Execution prediction (%)*
Acquisition of a new behavioral repertoire has made me more aware of my safety than on the past	*3.9*	*(0.5)*	*82.0*
My repertoire of behavior learned in SST is applicable in clinical practice	*4.2*	*(0.5)*	*94.4*
It is possible that an acquired behavior has not been used until now	*4.2*	*(0.5)*	*94.4*
A behavior learned in SST can be useful in incident prevention	*4.4*	*(0.5)*	*98.9*
It can be seen how my awareness to people who confirmed feel difficult	*3.7*	*(0.8)*	*65.2*

3.3 SST training effects and their persistence over time

Social skills were significantly higher immediately after SST, and this effect was maintained 6 months after training. Additionally, three of the five skills for taking direction (verbal confirmation, $F(2, 176) = 18.63$, $p < .001$; confirmation of diagnosis, $F(2, 176) = 34.24$, $p < .001$; and uncertain execution, $F(1.61, 141.75) = 57.02$, $p < .001$) and one of the three skills for transmitting directions (reporting confirmation, $F(2, 176) = 33.14$, $p < .001$) increased over time. Others skills such as appointment of a suitable person, level adjustment, and evaluation and confirmation of the implementation process, did not change over time (Table 5).

Table 5: *Skills for taking and transmitting directions*

		SST – Pre	SST – Post	After 6 months	*Main effect* F（d f）	*Multcompare*
		M (SD)	M (SD)	M (SD)		
Skills for taking direction	*Checking the verbal*	9.87 (1.69)	11.22 (1.72)	10.51 (1.77)	18.63***, (2, 176)	*SST-Pre<SST-Post;SST-Pre<After6M*
	Indication received dedication	12.20 (1.42)	13.11 (1.34)	12.00 (1.47)	21.25***, (1.56, 137.40)	*SST-Pre<SST-Post*
	Validity	9.87 (1.79)	11.64 (1.77)	10.64 (1.63)	57.02***, (1.61, 141.75)	*SST-Pre<SST-Post ;SST-Pre<After6M*
	Uncertain execution	4.90 (1.24)	7.17 (1.84)	6.16 (1.58)	34.24***, (2, 176)	*SST-Pre<SST-Post ;SST-Pre<After6M*
	Appointment to the appropriate person	7.84 (3.20)	7.96 (1.22)	7.75 (1.19)	0.23, (1.24, 1089.19)	*n..s*
Skills for transmitting direction	*Reporting confirmation*	11.26 (2.53)	13.90 (2.83)	13.22 (2.40)	33.14***, (2,176）	*SST-Pre<SST-Post ;SST-Pre<After6M*
	Level adjustment	9.69 (1.63)	11.16 (1.88)	10.15 (1.81)	22.67***, (1.82,159.77）	*SST-Pre<SST-Post*
	Confirmation and evaluation	13.54 (2.27)	14.78 (2.46)	13.72 (2.54)	9.53***, (1.67,146.77）	*SST-Pre<SST-Post*

*p<.05, **p < .01, *** p < 001

3.4 Evaluation of nursing students' skills implementation by clinical training leaders

After training began, the evaluation of nursing students' skills implementation by clinical leaders was performed. The results can be seen in Figure 3.

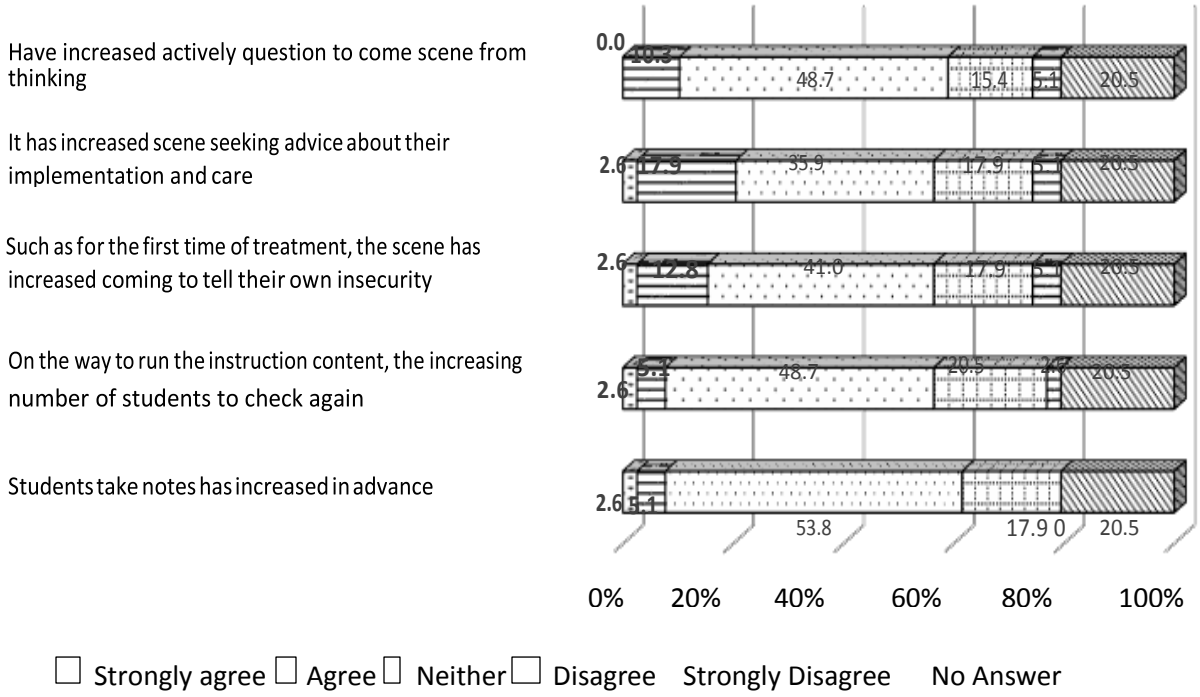

Figure 3: *Evaluation of nursing students' skills implementation by clinical training leaders*

4. Discussion

4.1 Effectiveness of SST

In this study, we carried out an SST intervention targeting second-year nursing students facing clinical practice. The results showed that the intervention elevated all SST skills, showing that this teaching material meets the needs of the students. Further, items related to verbal confirmation of instructions, validity, and uncertain execution, among skills for taking directions, and reporting confirmation among transmission skills remained significantly higher even six months later.

Meanwhile, compliance with instructions and appointment of a suitable person, among skills for taking directions, and level adjustment and evaluation and confirmation of the implementation process, among skills for transmitting directions, are skills rooted in interaction with others. Thus, the results seem to show that these are difficult skills to acquire than implementation skills. Based on the above, it seems that, in particular in the first half of the learning schedule, it is necessary to strengthen instruction in skills related to uncertain execution, verbal confirmation, and confirmation of diagnosis.

4.2 Adaptation of communication skills education towards patient safety

The improvement of non-technical skills for patient safety education involves team communication across multiple disciplines, situational awareness, closed-loop communication, and the elements covered in the SBAR-R (situation, background, recommendation, and response) shared mental model. The success in skill education of the intervention used here suggests the meaningfulness of the shared mental model concept and points to the learning opportunities connected to the team communication. That is, the communication skills to give and receive directions will continue to be covered in training as minimum skills for nursing students, which is likely to facilitate their connection to their future teams and improve future team communication on the whole From the above, we can understand skills instruction as the basis of team communication in the clinical field as a joint skill.

In the future, it will be urgent to create a more effective generalized are utilized in clinical practice easy package programmed to be expected.

4.3 Limitations of the study and future perspectives

We asked clinical leaders about the professional skills of the nursing students, and found that skills at taking direction remained a problem from their perspective. This result seems to indicate that the skill level of the nursing students has not reached the level their clinical leaders feel they require. Ways of closing this gap should be investigated.

In addition, the learning and practice environments will have meaningful effects on the learning of student nurses, their ability to ask questions, and their ability to apply learned skills in practice Support in all these areas is desirable The SST intervention conducted in this study showed the value of formally incorporating such an opportunity for nursing students to improve their skills at accurate information transmission In early practice, where interacting with others is less crucial, confirmation of verbal validity and uncertain execution among skills for taking directions and reporting confirmation among skills for transmitting directions are key, whereas in late practice, where nursing students need to interact with others, receiving instructions, appointment to the appropriate person, and level adjustment among skills for taking direction, and evaluation and confirmation and acquisition of the execution process among skills for transmitting directions should be pursued.

Finally, to aid nursing students trying to implement their skills, there is a need to increase awareness of the need for these learning opportunities among in-service nurses.

5. Conclusions

After the SST program implemented in this study, increases in several skills related to taking and transmitting instructions were maintained even after 6 months. However, given the lack of persistence in the increases in other skills, improved interventions are still needed. Future work should focus on clinical leaders and nurses, and on creating an environment to support skills acquisition and implementation among nursing students, in which they can ask questions as needed.

References

Agency for Healthcare Research and Quality. Team Strategies and Tools to Enhance Performance In addition, Patient Safety Team-STEPPS Curriculum ○R 2007.US Government Printing Office, Washington, DC.

Al-Ghareeb AZ., Cooper. SJ. (2016). Barriers and enablers to the use of high-fidelity patient simulation manikins in nurse education: an integrative review. Nurse Education Today, 36,281- 6. http://dx.doi.org/10.1016/j.nedt.2015.08.005

Cooper, E.(2013). From the school of nursing quality and safety officer: Nursing students' use of safety reporting tools and their perception of safety issues in clinical settings Journal of Professional Nursing, 29(2), 109-16. http://dx.doi.org/10.1016/j.profnurs.2012.12.005

Díaz, D. A., Panosky, D. M., & Shelton, D. (2014) Simulation: Introduction to correctional nursing in a prison setting Journal of Correctional Health Care, 20(3), 240-248. http://dx.doi.org/10.1177/1078345814532324

Judd, M. (2013). Broken communication in nursing can kill: Teaching communication is vital. Creative Nursing, 19(2), 101-104. http://dx.doi.org/10.1891/1078-4535.19.2.101

Miller, K., Riley, W., & Davis, S.(2009) Identifying key nursing and team behaviours to achieve high reliability Journal of Nursing Management, 17(2), 247-255. http://dx.doi.org/10.1111 /j.1365-2834.2009.00978.x

Noland, C. M. (2014) Baccalaureate nursing students' accounts of medical mistakes occurring in the clinical setting: Implications for curricula Journal of Nursing Education, 53(3), S34-S37. http://dx.doi.org/10.3928/01484834-20140211-04

Riley W., Hansen H. & Gurses A.et al. (2008) The Nature, Characteristics and patterns of perinatal critical events teams.In Advances in Patient Safety: New Directions and

Administrative Approaches,3(K. Hendrickson, J. B. Battles, M.A. Keyes & M.L Grady eds).131-144.Agency for Healthcare Research and Quality Publication, Rockville ,MD.

Reason J. (1997) Managing the Risks of Organizational Accidents. Ash gate Publishing, Alders hot, UK.

Tella,S., Smith, N. J.,Partanen, P., & Turenne, H.(2015) Learning patient safety in academic settings: A comparative study of Finnish and British nursing students' perceptions. Worldviews on Evidence-Based Nursing, 12(3), 154-164. http://dx.doi.org/10.1111/wvn.12088

Titzer, J. L., Swenty, C. F., &Mustata Wilson, G. (2015) Interprofessional education: Lessons learned from conducting an electronic health record assignment. Journal of Interprofessional Care, 29(6), 536-54. http://dx.doi.org/10.3109/13561820.2015.1021000

Yamamoto, E.Tanaka, T., Hyodo, Yoshimi & Hatanaka, K. (2015).Medical safety skills of nursing students involved in receiving instructions and out instructions. The 18th East Asian Forum of Nursing Scholars (EAFONS).