

A Method of Sharing the Intention of Reviewing in Writing-Training for Nurses

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Abstract: The Problem Oriented System (POS), SOAP, and Focus Charting are popular methods of recording nursing activities as a way to improve collaborative nursing practices. However, explicit training methods for what and how nurses should write these recording systems for their nursing have not been sufficiently established. In regard to such trainings, we consider that a tutor's thinking process is more important than the actual thinking result (e.g., a comment document). Our approach is to express tutor's intention of teaching as a map in order to develop an educational tool that can be used in trainings on what and how to think in recording their activities. This paper presents an overview of the reviewing tool we developed, which provides tags as criteria of a tutor's judgment. We have confirmed that, at least, the proposed method does not hinder a tutor's review of a nurse's case writing.

Keywords: Educational program, writing training, ontology, nursing education

1. Introduction

Service organizations generally use work records in a prescribed format to record complex situations or unexpected sudden changes on the site to enhance the effect produced by the cooperation of individual members. In hospital nursing structures, for instance, individual nurses record their own actions in nursing records; such as Problem Oriented System (Weed, 1968), SOAP (Cameron and Turtle-Song, 2002) and Focus Charting (Lampe, 1997); for shared use by colleagues and in medical care by unit and organizational teams. When these kinds of records are introduced, the success of their usage is determined by the criteria for what is, in an individual's reflective thinking, important to record, and by the guidance on how to approach that question.

Since 2011, we have provided guidance for nurses on how to record their thought processes in actual cases of reflection on nursing (Chen, et al., 2011; Cui, et al., 2011), in cooperation with a hospital nursing organization in Japan. To our knowledge, there are no established guidelines for capturing the details of one's thought process, and guidelines of this sort can greatly benefit nurse trainings on how to record reflections. We have concluded that in order for a guidance method to be established, first, tutors need to share their thought processes that took place at the time of teaching amongst themselves. For the evaluation of a guidance method and, in particular, to benefit inexperienced tutors, it is necessary to devise a structure for accumulating information on not only the actual advice given, but also on the intention and thought processes in teaching cases.

This paper outlines the concept of a structure to accumulate the intention of teaching and represent it in a mind-map format. For instance, a tutor will describe in advance a map format showing that the training will prioritize the criterion of whether nurses have been sufficiently trained in the topics that are to be written about in the record. We consider this structure for the accumulation of such information, together with nursing records and annotations on how and what criteria in the map are to be judged when the tutor actually reviews the records.

Section 2 describes our educational goal for nursing records. Section 3 presents an overview of case writing by nurses, and Section 4 describes the map representation of a tutor's intentions generated using a reviewing tool we developed.

2. Teaching Goals

This paper describes the type of teaching aimed for in this study. With the support of University Hospital A and General Hospital B in Japan, we conducted teaching based on “cases” in which nurses reflected on their experiences and wrote down their ideas.

As “thinking” involves tacit mental processes, it is not possible for another person to give the learner detailed and explicit instructions to a full extent (Seta, et al., 2013). With this in mind, we held workshops over a period of two years. The workshops were designed to help learners gain thinking skills in the same way that training wheels help beginners learn how to ride a bicycle. In other words, the thinking skills taught were entirely aimed at application in the workshops and thus should be differentiated from regular, everyday thinking.

In the first year of the workshops, learners selected one experience from their professional lives and reflected on it. They wrote it up as a case based on a list of 13 thinking elements (“tags”) (see Section 3) that we provided. Next, they explained their case to the other learners and engaged in a discussion about it. This sequence of activities was repeated three times during the first year.

We aimed to reduce the burden on learners by asking them to perform thinking not in parallel, but in a sequential order, whereby they first carefully considered the experience on their own and then discussed it with others.

In the second year, nurses participated in the workshops as leaders who made corrections to and commented on cases written by other nurses. The leaders were told to use simple language when explaining why a tag should be used for a certain thinking pattern as opposed to a different one. In the first year, the nurses tacitly considered their experiences using tags. In the second year, they were asked to list the multiple ways of using tags and then to write about the process of comparison they used and carefully reflect on it, describing their thoughts clearly.

In our teaching experience, novice tutors: such as leaders who join in 2nd year; often have difficulties expressing their thoughts in the review feedback, whereas expert tutors can explain their thoughts in a more explicit manner. In this study, the leaders express the intention in map representation for assistance of their reviewing (describe in Section 4). Functions of the assistance are considered as the following:

(A) When the leaders review member’s case, they can read the intention of experts’ teaching of the past. They can have the words to consider about teaching way consciously.

(B) The leaders can compare the actual changes between original case and revised case by receiving tutor’s advices. They can know the effectiveness of each instruction.

Thus, our roadmap of education, shown in Figure 1, consists of two parts: in the first year, “learning by doing” and in the second, “learning by explanation.” We believe that this activity encouraged a deeper study of their thinking patterns.

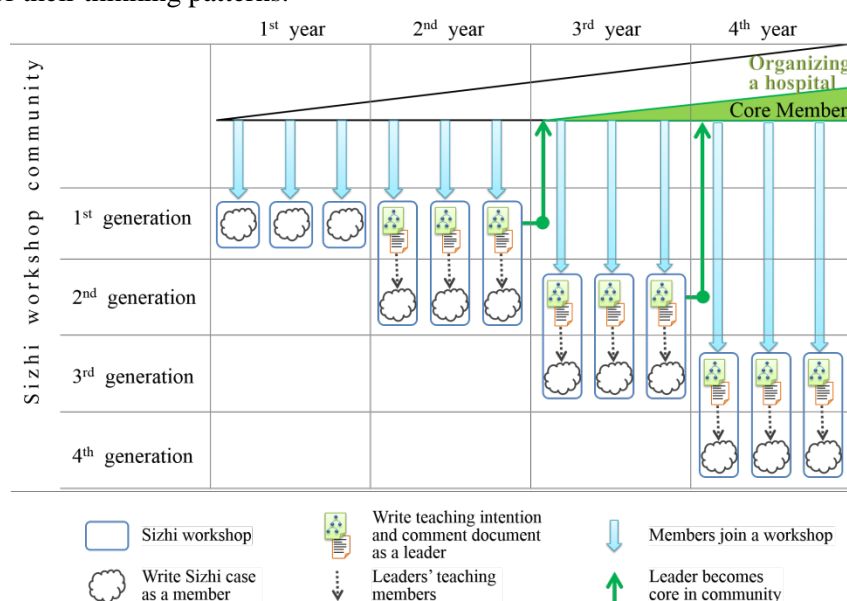


Figure 1. Roadmap of education in the Sizhi workshop.

We are planning that nine members and three leaders join in a workshop and about five nurses become new leaders per year. Through the core member of Sizhi workshop community is increasing over year, we intend to spread team medicine over the entire organization.

3. Realization Cases

We held three workshops, called “Sizhi,” which means “thinking about knowledge” in Japanese, at University Hospital A. Each workshop was held over a two-day period. At present, 26 nurses have participated in the Sizhi workshops since 2011. Four of these nurses became leaders who completed three workshops well. The workshop schedule and number of participants are as follows:

- Workshop 1: May 21, 2011 and June 4, 2011. 4 nurses as members.
- Workshop 2: September 3, 2011 and September 17, 2011. 12 nurses as members.
- Workshop 3: December 25, 2011 and January 15, 2012. 10 nurses as members.

This section describes the outline of the “realization cases” written by the nurses based on their reflective recordings in the workshop. The cases written at the Sizhi workshops are called “Sizhi cases.”

3.1 Reflective Recording by Nurses

In reflective recording, the nurses reflect on their own nursing and document the following five phases.

1. **Scene:** List the events that took place.
2. **Knowledge telling:** Reflect on your own thinking at the time, and select appropriate tags for each description, such as “Fact (Patient),” “Fact (Medicine),” “Policy,” “Premise,” “Assumption,” “Judge,” “Policy,” “Guess,” and “Result.”
3. **Thinking of another party:** Different from Phase 2, describe what another person in the scenario may have been thinking, and select, in the same way as in Phase 2, the relevant descriptive tags.
4. **Conflict:** Describe any contradictions between the contents of your writing in Phases 2 and 3. State the cause of the conflict. A “Conflict” tag is provided.
5. **Creation:** Describe the knowledge that transcends the conflict described in Phase 4. Create knowledge that generalizes specific cases. The tags “Reflection,” “Resolution,” and “Knowledge Building” are provided.

Figure 2 shows an example of a nurse’s writing in Phase 2 “Knowledge telling” and Phase 4 “Conflict.”

Knowledge telling: Reflecting on my experience

No.	Item	Statement	Grounds	Reference
30	Medical judgment	The mother was not allowed to hold her baby in her arms to avoid unnecessary stress on the baby before the surgery, which could be highly stressful to the baby in case of a pulmonary hypertensive crisis.	Grounds	27
31	Policy	While understanding the feeling of the family, the safety and treatment of the patient were given first priority.		
32	Judgment	Under the condition that the safety of the patient was secured (i.e., the baby was able to tolerate being held), the parents were allowed to spend time with their baby until the transfer to the operating room.	Grounds	31
33	Results	The mother spent time touching her baby, but she had a serious look on her face.	Cause	32
34	Estimation	The impending surgery seemed to have caused strong anxiety and tension.	Grounds	33

Cognitive conflict: Conflict

Reflecting on my experience

No.	Item	Statement
31	Policy	While understanding the feeling of the family, the safety and treatment of the patient were given first priority.

Reflecting on the other person

No.	Item	Statement
35	Policy	Respect the mother's wishes while closely monitoring and minimizing life-threatening factors.

Description of conflict

It is important that medical staff look after the best interest of the baby to prepare the baby for surgery under the best conditions. Given that the baby might die during the operation because of the difficulty of the surgery, it was necessary for the staff to encourage family time with the baby. However, holding their baby in their arms does not always palliate the parents' anxiety or tension. Nevertheless, considering the tie that parents, especially mothers, establish with their baby, assisting the mother in holding her baby close to her body to make her feel emotionally close to her baby may provide the mother with psychological support. However, this creates a conflict that requires attention.

Figure 2. Example of a nurse’s writing from Phase 2 “Knowledge telling” and Phase 4 “Conflict.”

4. Review Process

4.1 Defining the Intention of Reviewing

The tutors provide guidance in the form of feedback to nurses who have written realization cases. This feedback includes constructive comments, evaluations, and reasons in relation to the case as a whole, advice on future learning targets, knowledge instruction, general comments that are independent of individual cases, and concrete comments on specific cases. Figure 3 shows a concrete example of feedback, called a “comment document.”

An experienced tutor in the Sizhi workshop gave feedback in the form of a map, shown in Figure 4. The map, called “Reviewing process map (R-map),” consists of criterion nodes and choice nodes, with the statements from the feedback shown in the choice nodes. In the R-map shown in Figure 4, the tutor first sets the criterion as to whether the content is represented in a concise manner, enabling one to reflect on one’s own thinking, and then considers the following cases: Moving to the conflict criterion as the content has been well described, moving to the criterion for splitting the content into two cases as both topics have been mixed up, or advising to reconsider the subject as the description is complicated. Thus, R-map ensures that the feedback corresponds to the results of the tutor’s thought process.

The tutor generates a comment document to advise the learner on how to improve his or her Sizhi case. Every sentence (i.e., comment) is associated with the R-map through the use of the reviewing tool described in Section 4.2.

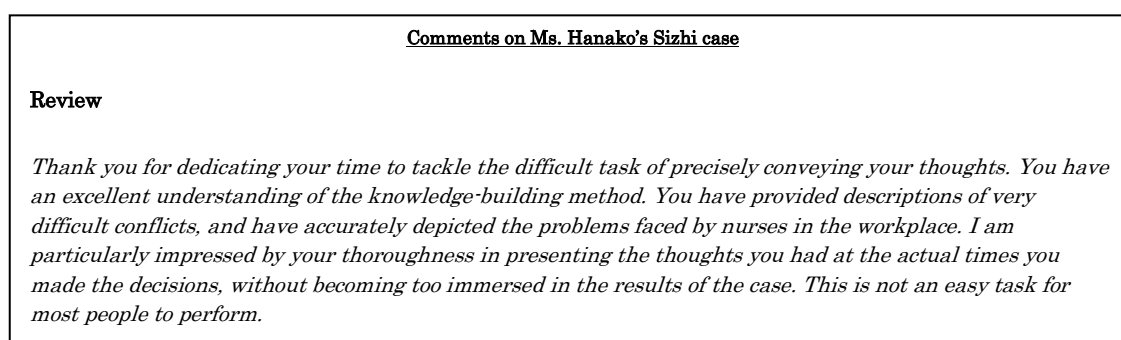


Figure 3. Example of comment document written by a tutor.

When a novice tutor cannot read the intention from only the comment document, he/she might understand the author’s intention from the R-map through the association with the sentences. Tutors can create comment documents with our reviewing tool, called the “Sizhi reviewing tool,” which is described in next Section.

4.2 Sizhi Reviewing Tool

The Sizhi reviewing tool was developed for assisting tutor’s reviewing as function (A) in Section 2.

The tutor first uses a general mind-map editor application to define his/her reviewing criteria, choices, and feedback. The file which is saved in XML format and loaded into the Sizhi reviewing tool.

The tool shows the reviewing criteria and choices in the R-map format. The tutor can select a choice from a pull-down menu in Figure 5. Then, the attribute pull-down menu dynamically updates according to the selection, and the tutor can choose an appropriate comment as feedback or create a new comment in the “Update Attribute” text box below. The tutor then clicks the “Next Step” button to move to the next criterion. When every criterion has been chosen, the comment document, which consists of all the selected comments, is generated. The tutor can also add concrete comments that are specific to the case.

New comments that are created during the review are automatically added in the R-map. Then, the new R-map is reloaded into the Sizhi reviewing tool, and the new comments are shown as choices in the pull-down menu, along with the other pre-written comments.

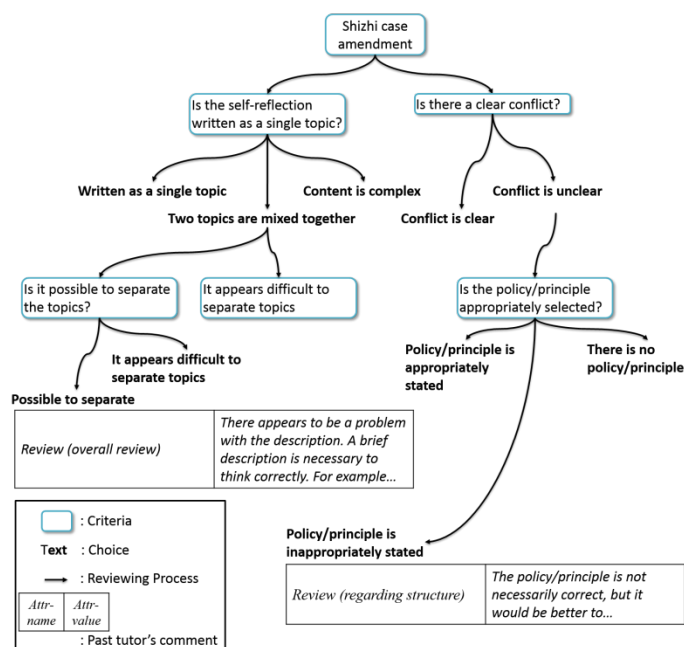


Figure 4. Reviewing process map (R-map) (partial) defined for the Sizhi workshop at General Hospital B.

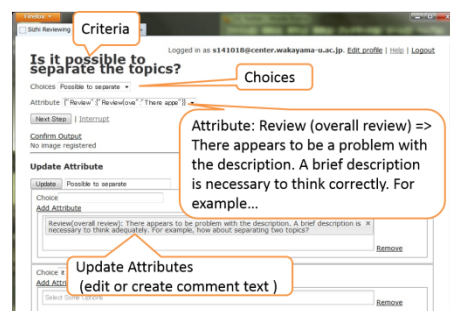


Figure 5. Reviewing tool implemented as a web application.

4.3 Results

We tentatively introduced the Sizhi reviewing tool in the instruction given at the Sizhi workshop held at General Hospital B in 2013. Seven nurses attended the workshop, and an expert tutor who had taught three workshops for two years reviewed all the Sizhi cases using the Sizhi reviewing tool.

The topics of the Sizhi cases are the following: “Control a dementia patient”, “Care for a nurse who is absent from a meeting”, “The measures dialysis patient”, “Trouble with patient’s family”, “Using tranquilizer”, “Dietary restriction”, and “Arrangement of medical staff.”

The tutor designed his reviewing process in R-map for the Sizhi cases. Table 1 shows the results of the tutor’s review that consists of “Problem”, “Causes of the problem”, “Instruction of the solution”, and “Suggestion about the effectiveness of the solution.”

He designed a total of five R-maps and completed all seven comment documents. Note that all comments can be associated with the R-map. During the tutor’s review, the R-map was updated and reloaded into the Sizhi reviewing tool five times.

The result indicates that, at a minimum, the proposed method did not hinder the tutor’s review in the seven cases. To confirm the effectiveness of the reviewing method, we need to perform another evaluation experiment.

Further, a problem was identified through the reviewing process. R-map assumes an instructional strategy, so the tutor needs to define several R-maps in order to express each strategy. One of the reasons for this is that R-map mixes the educational goal with the reviewing process. For example, the tutor may think that there are too many problems to address all at once and decide to focus on only two problems in the comment document. In this context, the two reviewing processes are the same for the learners; however, the concrete problems of learners’ cases are different. Thus, R-map requires two maps for two reviews.

5. Conclusions

In this study, we proposed a format for expressing reviewing intention based on our teaching experience and aimed at establishing a guidance method that captures in detail the thought process

involved in reviewing nurses' Sizhi cases. The Sizhi reviewing tool hierarchically associates a tutor's comments with his or her reviewing criteria and choices. We introduced this method into actual nursing education for writing cases.

Currently, we are designing a new method that separates the tutor's educational goal from each reviewing process for a Sizhi case. The educational goal can be defined generally as an ontology. A reviewing process model, such as R-map, can be created by combining instances of concepts in the ontology. We are developing a tutoring repository tool as function (B) in Section 2.

At present, four nurses have completed the Sizhi workshop and become leaders at University Hospital A. They are planning the next workshop, which involves understanding the educational policy of the nursing management department and investigating the requirements of nursing fields. In the next Sizhi workshop, they will review the participants' Sizhi cases. In the future, we plan to hold three Sizhi workshops and give birth to 15 new leaders in next three years.

Table 1: Results of the tutor's reviewing the Sizhi cases with the Sizhi reviewing tool.

Problem	
Failure of setting single topic about suffering.	Thinking after the event.
Failure of clarifying the important points.	No fundamental conflict.
Failure of distinction between the fact and the judgment.	Failure of constructing conflict with "Policy" thinking element.
Cause of the problem	
Impossible to imagine another results.	Difficult problem with no answer.
Confusing the cause and the result.	Impossible to think different with own.
Unthinkable agony.	Actual judgement.
Impossible to find out the principal reason of the conflict.	
Instruction of the solution	
Method of comparing the cause with the result.	To think extremely.
Learning analysis of distress.	How to distinguish the judgement in reflection.
How to find out the property of the case.	Learning "Policy" thinking element in reflection.
Suggestion about the effectiveness of the solution	
Freedom from the distress.	Deeper understanding about the problem.
Clarifying the reason of the distress and guidance to the solution.	Avoidance of excessive generalization.

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References

- Cameron, S., Turtle-Song, I. (2002). Learning to Write Case Notes Using the SOAP Format, *J. of Counseling & Development*, 80(3). 268-292.
- Chen, W., Fujii, M., Cui, L., Ikeda, M., Seta, K. and Matsuda, N. (2011). Sizhi: Self-Dialogue Training through Reflective Case-Writing for Medical Service Education, *Proc. of Workshop on Skill Analysis, Learning or Teaching of Skills, Learning Environments or Training Environments for Skills in conjunction with ICCE*, 551-559.
- Cui L., Kamiyama M., Matsuda, N., Seta, K. and Ikeda, M. (2011). A Model of Collaborative Learning for Improving the Quality of Medical Services, *Proc. of the 6th International Conference on Knowledge, Information and Creativity Support Systems (KICSS)*, 112-121.
- Lampe, S. (1997). Focus Charting: Documentation for Patient - Centered Care, *Creative Nursing Management*.
- Seta, K., Cui, L., Ikeda, M., Matsuda, N. and Okamoto, M. (2013). Meta-Cognitive Skill Training Program for First-Year Bachelor Students Using Thinking Process Externalization Environment, *Int. J. of Knowledge and Web Intelligence*, in press.

Weed, L. L. (1968). Medical Records that Guide and Teach. *New Eng J Med*, 278:593-599, 652-657.