

Reviewing System of Writing for Hospital Nurses

Hideyuki KANO ^{a*}, Hirotaka NISHIYAMA ^{b*}, Koji TANAKA ^{c*}, Liang CUI ^{c*}, Noriyuki MATSUDA ^{d*}, Hirokazu MIURA ^{d*}, Mitsuru IKEDA ^{b*}, Hirokazu TAKI ^{d*}

^a Graduate School of Systems Engineering, Wakayama University, Japan

^b School of Knowledge Science, Japan Advanced Institute of Science and Technology, Japan

^c Research Center for Service Science, Japan Advanced Institute of Science and Technology, Japan

^d Faculty of Systems Engineering, Wakayama University, Japan

*s141018@center.wakayama-u.ac.jp

Abstract: This paper describes a system to aid in reviewing writing by nurses. Since 2010, we have held workshops for hospital nurses to help reduce the problem of burnout among the occupation. In workshops, novice nurses write about their specific experiences in their work. A tutor reviews their writing, and provides advice to help nurses think about their jobs differently despite their individual difficulties. To design our system, we investigated words from tutors' reviews and have constructed a reviewing ontology. Our system provides young tutors comments based on the words they use in reviewing. We expect this system can help provide a scaffold for tutors to review writings.

Keywords: writing review, nursing education, ontology, burnout syndrome

1. Introduction

In hospital nursing, "Burnout Syndrome" is a problem where nurses' deepening worries about the results of their work lead to high levels of turnover. Burnout occurs, many believe, because it is difficult to find a clear solution to workplace problems; nurses who care for a variety of patients and medical conditions respond to atypical problems day-to-day.

Thereby in cooperation with nursing organizations, the authors have conducted trainings in which participants write on personal difficulties and are provided a way of thinking through problems, along with a logical structure for training and guidance, to better train their thinking. In this training, the learner describes the history of their own thinking, using tools from Sizhi to represent the logical structure of their thinking (Chen, W, 2011). Detailed descriptions of "Sizhi" appear in this paper's references. This paper is intended only to provide guidance on this method.

In this paper, we consider the language used in the leadership of this training. Previous analyses of training have revealed that instruction has been ineffective for leaders less capable of expressing their thoughts in words. Problems in nursing are atypical and are difficult problems through which to guide nurses.

Thereby authors collected and codified the thinking of leaders, and designed and developed a tool to reuse this thinking to provide the correct guidance to leaders. Therefore, leaders can reuse advice that they have verbalized in the past. This technique is expected to promote better guidance and provide a systemized approach to improving guidance for trainees (Wilfeth, J, 2014).

2. Collection and systematization of vocabulary

This chapter describes the collection and systematization of vocabulary that represents the thinking of skilled nurses. Collecting and accumulating thinking is implicitly a difficult activity. Thus, one of the authors ask skilled nurses who can verbalize their own thinking to express their intentions when the authors are teaching. We classified and systemized this thinking as an ontology based on the contents and stage of their guidance (Leki I, 1990).

As a result, teaching methods have focused on one method, identifying only two problems of the text to reduce the burden on leaders. Guidance on these consists of the following four items. Parentheses show the frequency of vocabulary items for each item.

- 1)Problem (8)** : Describing a problem in the sentence (e.g. “Logical structure is not clear”)
- 2)Cause(s) of the problem (13)** : Description of the problem, whether derived from point of view or concept (e.g. “Too obsessed with bad results”)
- 3)Instruction on the solution (7)** : A teaching concept that either solves the problem or leads the thinking of the participant toward a better direction (e.g. “Avoid thinking about results”)
- 4)Suggestion(s) about the effectiveness of the solution (6)** : Describing the effect(s) that occur when the advice is put into practice, encouraging ambitious efforts from nurses (e.g. “Deepening understanding of current issues”)

3. Reviewing tool

This chapter describes the reviewing tool used to guide leaders to help correct the codified vocabulary.

The screenshot displays a web-based interface for reviewing teaching guidance. It consists of three main sections, each with a radio button and a label:

- Problem**: A dropdown menu is open, showing the selected option "Failure of clarifying the important points." with a downward arrow.
- Cause of the problem**: A list box is open, showing two categories of issues:
 - Confusing the cause and the result.** (with a downward arrow)
 - Impossible to think different with own.
 - Difficult problem with no answer.
 - Unthinkable agony.**
 - Impossible to find out the principal reason of the conflict.
- Instruction of the solution**: A dropdown menu is open, showing the selected option "Learning analysis of distress." with a downward arrow.

Figure 1. Screen of the reviewing tool.

Figure 1 shows a corrections screen using the tool. Questions embedded on the screen ask about how the contents suits the leader's teaching strategies. Past instructional content is referred to as a response for each item, found in the pull-down menu. Leaders can correct guidance by selecting suitable content for the current study among the responses listed.

Upon completion of the corrections, the review consists of correction sentences and output. Additionally, it is possible to enter text on one's own, instead of selecting from corrections of past statements. Therefore, if leaders cannot find appropriate comments, they can add an element to the tool.

4. Preliminary experiments

The author did preliminary experiments in order to ensure that the proposed system helps the corrector place their own thoughts into works. This chapter describes the experiment and its evaluation.

4.1 Experiment content

First, the author asked five experienced leaders to conduct correction guidance on one case, using Microsoft Word as a general editor. Next, they were asked to conduct the same correction guidance for the same case using the reviewing tool. We evaluated the tool by comparing the results of each of these sessions.

4.2 Experiment content

Each of the four types of evaluation content described above were evaluated using the system below:

- Type of guidance was not observed: 0 points.
- Some description of the type was provided, but little illustrative explanation was provided or description was insufficient: 1 point.
- The type is described without missing any essential features: 2 points.

When using Microsoft Word, subject A received 11 points, subject B received 12 points, subject C received 12 points, subject D received 9 points, and subject E received 7 points.

Figure 3 graphs how scores differed between Microsoft Word and the reviewing tool, using the notepad provided by each subject.

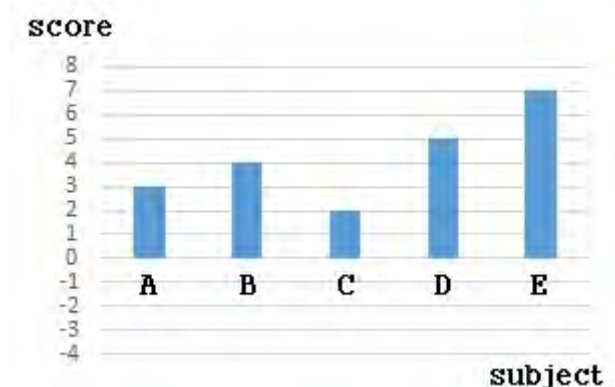


Figure 2. Difference in Scores between Reviewing Tool and MS Word

5. Conclusions

In this study, the authors proposed a system that can reuse skilled leader's thinking in the editing of writing designed to solve work-related stresses for nurses. The study confirms that the system is able to assist in the act of putting thinking into words of new leaders through a preliminary experiment. This system is scheduled to be introduced and evaluated in the context of actual guidance provided in the hospital.

References

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