NURSING STUDENTS' USE OF THE METACOGNITIVE STRATEGY DURING THE CORONAVIRUS CRISIS

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Introduction

In the context of nursing education, there is higher expectation of independent learning from university students during the coronavirus 2019 (COVID-19) pandemic. This is because these students might not be able to receive the same level of support as they did during face-to-face learning on campus, with nursing classes being conducted remotely, except those involving practicum and certain experiments. Accordingly, this questionnaire-based study aimed to clarify the changes in metacognitive knowledge among first-year nursing students in 2020 at a single university in western Japan.

Methods

Participants

In the spring of the 2020 academic year, 91 first-year nursing students (9 men and 82 women) aged 18–19 years were surveyed. A year later, the same students were asked to respond to a questionnaire. All participants in this study were nursing majors at the university's school of nursing. The researchers were teachers at the university and were in charge of course language, cross-cultural education, and global health. At the time of data collection, the university decided to conduct all nursing classes remotely, except those involving practicum and certain experiments. A request to complete the questionnaire was sent to the participants at the beginning of the 2020 academic year.

Instrumentation

The same questionnaire was administered for both surveys. The participants were asked about their knowledge and beliefs regarding metacognition. Twenty-three items were chosen based on the results of previous studies (Takahashi, 2003; Takahashi, et al., 2017; Takahashi & Yamaguchi, 2020). The participants responded on a Likert-type scale ranging from 1 (strongly disagree) to 4 (strongly agree). An opt-out response was provided for each item. The questionnaire was linked to the university's chat platform. In both surveys, the participants were asked about their knowledge and perceptions of metacognition. For the 2021 survey, an open-ended question was added regarding the aspect of online learning that they considered the most difficult.

Ethical Considerations

The survey was approved by the ethics committee of the university. An explanation and description of the survey were sent to the participants before the survey; it also explained the participants' rights. It was confirmed that there were no risks or discomfort to the participants involved in this survey. Moreover, no entities, relationships, etc., presented a potential conflict of interest requiring disclosure in relation to this study.

Table 1. Demographic data

	2020	2021
Participant	99	99
Respondent	84	75
Male	5	6
Female	79	69

Results

The data were collected twice, in April 2020 and May 2021. The results of the 2020 survey (response rate: 84%) show that the students strongly agreed with items regarding the "effectiveness of strategy use," "knowing oneself," "human mentality," and "problem-solving ability." This implied that they were capable of learning independently. The 2021 survey (response rate: 77%) was completed, and the changes in metacognitive knowledge were analyzed using a t-test. The results show that participants had similar responses to the questions in both surveys, except for "I know my strengths and weaknesses in learning." The participants expressed significantly lower agreement with this question in the 2021 survey ($M = 2.88$; $SD = .628$) than in the 2020 survey [$M = 3.14$; $SD = .469$; $t(159) = 2.989$, $p = .003$, Cohen's $d = .47$].

The responses to the open question "What did you feel was the most difficult in your learning?" included "loneliness," "lack of consultation," and "difficulty in creating a learning environment at home."

Table 2. What did you feel was the most difficult in your learning?

Question	Strongly agree	agree	disagree	strongly disagree
Difficulty in learning	2	15	54	8

Discussion

The changes observed in nursing students' perceptions during the COVID-19 crisis may help identify new directions in learning styles. The results also identify the difficulties in learning in the context of a pandemic. Post-COVID-19 learning will thus depend largely on the foundation that teachers and administrators established during the pandemic and the way they foster environments that encourage students to nurture their self-learning ability.

Although it is not known how long the pandemic will last, further studies are necessary to document and analyze changes in nursing students' use of metacognitive strategies in their remaining time at the university.

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