Competency of Academic Nurse Educators

Miho Satoh, RN, PHN, PhD1, Akiko Fujimura, RN, MSN2 and Naoko Sato, RN, PhD3

Abstract

Background: In the face of a rapidly changing social environment and increasing demand for health care services, there is a global concern that academic nurse educators should have expert-level competencies and should improve the level of nursing education.

Objective: This study aimed to investigate the elements that constitute competency in academic nurse educators.

Methods: A cross-sectional self-completed online survey was conducted involving academic nurse educators working at universities in Japan. We invited 277 nursing universities to participate in the survey and to provide academic nurse educators with information about the research by contacting the dean of each university's nursing department. In total, 372 educators completed the survey (response rate 4.03%), and after excluding those with incomplete data, 367 were analyzed (valid response rate 3.97%). The data were analyzed by exploratory-factor analysis, with the least-squares method and promax rotation performed.

Results: An exploratory analysis yielded five competency factors: “facilitating active learning,” “engaging in academic research activities,” “participating in university management,” “undertaking self-directed learning based on professional ethics,” and “practicing education autonomously.”

Conclusions: The competencies identified in the present study are essential for academic nurse educators, and the five factors are in accord with the findings of previous studies. Support systems for academic nursing educators should be established to improve their competencies comprehensively. However, further research is needed to develop the competencies of academic nurse educators into more comprehensive and sophisticated competencies.

Keywords

competency, academic nurse educator, higher education, nurse education, professional development

Introduction

Competencies are skills, knowledge, behavior, and individual characteristics that are necessary for performing jobs (Spencer & Spencer, 1993). Within the health care context, “Professional competence is the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values and reflection in daily practice for the benefit of the individual and community being served” (Epstein & Hundert, 2002). Thus, competency is a broad concept comprising two components: visible characteristics, such as knowledge, skills, and attitude, and deeper characteristics that are not visible, such as personality traits, self-concept, and motive. This concept has been actively applied in human resource management, and has also been applied for decades in the training of registered nurses, the professional development of nurse managers, and the education of nursing students.

Nurses with high-level professional knowledge and skills are needed, especially considering the complexity of disease patterns, the demand for health care professional personnel, and the globalization of health care.

1Department of Fundamental Nursing, Yokohama City University, Yokohama, Japan
2Department of Clinical Nursing, Tokyo Healthcare University, Tokyo, Japan
3Oncology Nursing, Health Sciences, Tohoku University Graduate School of Medicine, Sendai, Japan

Corresponding Author:
Miho Satoh, 3-9 Fukaura, Kanazawa-ku, Yokohama, Kanagawa 236-0004, Japan.
Email: miho.sth@gmail.com

Creative Commons Non Commercial CC BY-NC: This article is distributed under the terms of the Creative Commons Attribution-NonCommercial 4.0 License (http://www.creativecommons.org/licenses/by-nc/4.0/) which permits non-commercial use, reproduction and distribution of the work without further permission provided the original work is attributed as specified on the SAGE and Open Access pages (https://us.sagepub.com/en-us/nam/open-access-at-sage).
services. Furthermore, academic nurse educators with expert-level competencies are needed, and the level of nursing education for training professional nursing personnel needs to be improved (Kuivila et al., 2020; Mikkonen et al., 2019; Takase et al., 2020).

Academic nurse educators should be highly competent in teaching, research, clinical practice, management, communication, and ethics (Mikkonen et al., 2018; Zlatanovic et al., 2017). They should be educators with multiple competencies that contribute to the cultivation of highly professional nurses (Jackson et al., 2011). Systematic literature reviews, other empirical studies, and national policies for academic nurse educators suggest that academic nurse educators be required to have the following competencies: academic and research competencies, nursing practice and knowledge, certain personal traits, a professional attitude, pedagogical competencies, relationships with students, and management skills (Australian Nurse Teachers’ Society, 2010; Doi & Hosoda, 2017; Maruo et al., 2017; McAllister & Flynn, 2016; Mikkonen et al., 2020; National League for Nursing [NLN], 2013; Salminen et al., 2009, 2013). The nursing education system varies by country, and thus the required competencies of academic nurse educators and the education they receive also vary (Salminen et al., 2010). It seems unlikely that there will ever be a universally accepted definition of competency for academic nurse educators (Garside & Nhemachena, 2013; Zlatanovic et al., 2017). However, it is important to improve and make equal the quality of nursing education globally and to address disparities in nursing service quality at the international level.

Internationally, the core competencies of nurse educators are organized into eight domains: theories and principles of adult learning; curriculum and implementation; nursing practice; research and evidence; communication, collaboration, and partnership; ethical/legal principles and professionalism; monitoring and evaluation; and management, leadership, and advocacy (World Health Organization [WHO], 2016). Some of the skills and knowledge required to become an academic nurse educator described in the Nurse Educator Core Competencies (WHO, 2016) were found to be helpful for considering international standards. However, the Nurse Educator Core Competencies (WHO, 2016) has several limitations. First, the superordinate concepts of the proposed components of competency (i.e., the definition of Nurse Educator Core Competencies), are not clearly defined. Second, the surveys for developing those core competencies might be biased in terms of survey participants, and the validity of the content has not yet been empirically investigated. Finally, competencies such as individual traits and values were proposed only in the context of academic nurse educators.

The development of nursing competencies in undergraduate students does not merely involve acquiring nursing knowledge and skills, but also includes developing ethical sensitivity, interpersonal skills, reflection skills, and relevant personal traits (Ministry of Education, Culture, Sports, Science and Technology, 2017; Science Council of Japan, 2017). A systematic review of nursing student competencies identified the following competencies that all nursing students should attain: nursing care knowledge and skills, attitudes and values in clinical situations, critical thinking skills, ethical decision-making skills, and skills in communication and interpersonal relationships (Immonen, et al., 2019).

To promote or enhance these competencies of nursing students, the competency of academic nurse educators needs to be comprehensive. Some indicators and assessment tools have been developed based on the above competencies for educating nursing students in Japan (Japan Association of Nursing Programs in Universities, 2011; Ministry of Health, Labour and Welfare, 2010) but have some drawbacks. In particular, these indicators and tools were designed for only younger faculty members and have not been examined empirically. Moreover, these indicators and tools include mainly the elements of clinical nursing practice or professional ethical sensitivity, not comprehensive indicators and tools.

Faculty members, regardless of their major, are required to have not only sufficient ability to perform their duties but also particular personal qualities. Ability is the capability to accomplish a goal, and personal quality is a characteristic and natural talent; these words are described in parallel. Competency is a comprehensive concept that encompasses ability and personal quality required for perform the specific duties and responsibilities (Epstein & Hundert, 2002; Spencer & Spencer, 1993). Therefore, this concept can be used in broader contexts and is applicable to the competency of academic nurse educators, which requires particular abilities and inherent qualities.

Based on those definitions of competency proposed by previous studies, the competency of academic nurse educators is defined here as “an underlying characteristic of an individual that is causally related to criterion-referenced effective and/or superior performance in a job or situation such as serving as an academic nurse educator at a university.” Here, ‘underlying characteristic’ means values, beliefs, and behavior that are consistent across a wide variety of situations and job tasks over a long period.

The aim of this study was to investigate the factors that constitute competency in academic nurse educators at Japanese universities. Accordingly, items related to the competency of academic nurse educators were
selected and their importance and necessity were considered from the perspective of our definition of competency for academic nurse educators. Then, the individual aspects of each competency were further identified. By identifying the competency factors required of academic nurse educators, their knowledge and skills could be developed according to their situation, thereby improving the quality of nursing education.

**Methods**

**Design and Participants**

A cross-sectional survey design was implemented using an anonymous self-administered online survey system. Participants were academic nurse educators who were working at nursing universities and members of the Japan Association of Nursing Programs in Universities.

**Procedures**

The authors contacted the deans of 277 of 283 nursing universities that belonged to the Japan Association of Nursing Programs in Universities as of April 2019 to request their respective university’s participation in the survey. The other six universities are affiliated with the authors’ institutions and were excluded from the study so that they would not feel obliged to cooperate. The decision to inform the academic nurse educators at each university of this survey was left entirely to the dean. The academic nurse educators were provided information about the study on the survey website. All data were collected via the online survey system. There was a total of 9237 academic nurse educators at the 277 nursing universities. In total, 372 participants completed the survey (response rate 4.03%), and after excluding incomplete data, the data of 367 participants were analyzed (valid response rate 3.97%).

**Variables**

**Competencies of Academic Nurse Educators.** An original questionnaire consisting of 55 items concerning the competencies of nursing academic educators was developed for this study. First, relevant literature on the competencies of academic nurse educators was reviewed to generate an item pool comprising competencies of academic nurse educators. For the literature review, the databases of PubMed, the Cumulative Index of Nursing and Allied Health Literature, and the Japan Medical Abstracts Society were searched using the terms “nurse,” “faculty,” “educator,” “education,” and “competency.” Inclusion criteria were studies published between 2007 and 2017, papers published in Japanese or English, and primary original empirical studies or literature reviews. Studies not targeting academic nurse educators at university were excluded.

To ensure that this research was not at odds with current policies in actual nursing education, we also reviewed the “Report on the further direction of attributes and abilities of nurse teachers and the education programs for them” (Ministry of Health, Labour and Welfare, 2010), “Report on educator training in nursing graduate schools for educational system enhancement” (Japan Association of Nursing Programs in Universities, 2013), “Nurse Educator Core Competencies” (WHO, 2016), and “The FD guideline for younger nurse educators” (Japan Association of Nursing Programs in Universities, 2011).

From our review and discussion, competency items were selected based on our abovementioned definition of competency for academic nurse educators. Finally, we agreed on 55 competency items for inclusion in the questionnaire. The questionnaire queried the extent to which each of the 55 competency items currently applied to the survey participant. All items were self-rated according to a four-point response Likert scale (1 = not applicable, 2 = slightly true, 3 = true, and 4 = always true).

**Individual Attributes.** Participants’ demographic characteristics included sex, age, years of teaching experience, years of nursing experience, current academic position, academic position when they joined the education field, education level, nursing-related certification, department, and main affiliation (national, public, or private university).

**Statistical Analyses**

Descriptive statistics, such as frequency, percentage, mean, and standard deviations, were used to analyze all variables. Subsequently, ceiling and floor effects of the 55 competency items were assessed by calculating their mean and standard deviation. Exploratory factor analysis was then performed using the least-squares method with promax rotation to examine the factor structure of the competency of academic nurse educators. We extracted all factors with eigenvalues greater than 1.0 in which the constituent items had loadings above 0.35 in terms of their interpretability (Howard, 2016). The internal consistencies of the extracted factors were evaluated using Cronbach’s alpha.

SPSS Statistics 26.0 for Mac was used for all data analyses. Statistical significance was set at $p < 0.05$ (two-tailed).
Ethical Considerations

The study was approved by the Ethics Committee of the authors’ institutions, and complied with the Declaration of Helsinki.

Results

Participant Characteristics

The participants’ demographic characteristics were recorded (Tables 1 and 2). Most were Assistant Professors (34.6%), followed by Lecturers (26.2%). There was approximately the same number of participants working in adult nursing departments (adult nursing departments is that teach clinical nursing care to adults with a wide variety of medical conditions and illnesses, and for supporting their treatment, recovery, and well-being) (22.1%) as in the fundamental of nursing (fundamental of nursing is that teach fundamental or theoretical nursing principles and basic nursing skills) (21.3%). The mean number of teaching years (8.52 ± 6.58 years) was slightly lower than the mean number of nursing years (10.37 ± 7.11 years). More than half worked at private universities (56.1%).

Distribution of Competencies of Academic Nurse Educators

The mean, standard deviation, and median of each competency item was calculated (Table 3). The median of most items was 3 and the mean of all items was relatively high. Floor effects were not found, whereas ceiling effects were found on 13 items: “Understands how to contact and report in the job,” “Understands their role in the organization,” “Cooperates and collaborates with university faculty colleagues,” “Coordinates, cooperates, and collaborates with facilities for practical training,” “Understands the relevance between the university’s educational policy and clinical practice,” “Understands how academic nurse educators and clinical nursing instructors cooperate and collaborate with one another,” “Builds relationships with staff in facilities for practical nurse training,” “Coordinates practical nurse training matters with facilities and clinical nursing instructors,” “Provides effective advice on students’ practical nurse training,” “Adjusts the balance between students’ right to learn and ethical consideration for patients,” “Advocates for students undergoing practical nurse training,” “Understands the position of the person in charge of the curriculum,” and “Manages personal information appropriately.”

Exploratory Analysis of Competencies of Academic Nurse Educators

After excluding 13 items with ceiling effects, exploratory factor analysis (least-squares method with promax rotation) was performed on 42 items (Kaiser-Meyer-Olkin test = 0.96, Bartlett’s test = p < .001; Table 4).

Table 1. Participants’ Characteristics (N = 367).

| Sex | N   | %   | Education level | N   | %  |
|-----|-----|-----|-----------------|-----|----|
| Female | 317 | 86.4 | Vocational nursing school or junior nursing college | 17  | 4.7 |
| Male | 50  | 13.6 | Nursing university | 15  | 4.1 |
| Current position | | | University (excluding nursing university) | 3   | 0.8 |
| Professor | 49  | 13.4 | Master’s degree | 197 | 53.7 |
| Associate professor | 67  | 18.3 | Doctoral degree | 134 | 36.5 |
| Lecturer | 96  | 26.2 | Other | 1   | 0.3 |
| Assistant professor | 127 | 34.6 | | 78  | 21.3 |
| Teaching associate | 28  | 7.6 | Fundamental of nursing | 81  | 22.1 |
| Certification related to nursing (MA) | | | Adult nursing | 39  | 10.6 |
| Registered nurse | 365 | 99.5 | Gerontological nursing | 27  | 7.4 |
| Public health nurse | 199 | 54.2 | Home nursing | 27  | 7.4 |
| Licensed practical nurse | 17  | 4.6 | Child nursing | 32  | 8.7 |
| Main affiliation | | | Maternity nursing | 44  | 12.0 |
| National university | 57  | 15.5 | Mental health nursing | 21  | 5.7 |
| Public university | 104 | 28.3 | Community nursing | 29  | 7.9 |
| Private university | 206 | 56.1 | Other | 16  | 4.4 |

Table 2. Participants’ Age and Experience in Years.

| Age | Years of teaching experience | Years of nursing experience | Mean | SD | Minimum | Maximum |
|-----|-----------------------------|----------------------------|------|----|---------|--------|
| 45.81 | 8.80 | 27 | 70  |
| 8.52 | 6.58 | 0 | 31  |
| 10.37 | 7.11 | 0 | 38  |
|   | Competency Description                                                                 | Mean | SD  | Median |
|---|----------------------------------------------------------------------------------------|------|-----|--------|
| 1 | Understands how to contact and report in the job                                         | 3.55 | 0.58| 4      |
| 2 | Understands their role in the organization                                              | 3.46 | 0.59| 4      |
| 3 | Plays their role actively in university management, such as in a committee               | 3.08 | 0.84| 3      |
| 4 | Establishes a network within and beyond the university, leading to problem solving       | 2.76 | 0.86| 3      |
| 5 | Has short- and long-term goals in their professional life                                 | 2.94 | 0.77| 3      |
| 6 | Cooperates and collaborates with university faculty colleagues                          | 3.33 | 0.69| 3      |
| 7 | Coordinates, cooperates, and collaborates with facilities for practical training         | 3.42 | 0.63| 3      |
| 8 | Expresses themself in interpersonal relationships                                        | 3.14 | 0.69| 3      |
| 9 | Shows understanding of other persons in interpersonal relationships                       | 3.37 | 0.59| 3      |
|10 | Engages in self-improvement to enhance ethical sensitivity                                | 3.29 | 0.63| 3      |
|11 | Reflects on their own behavior in terms of professional ethics                            | 3.34 | 0.60| 3      |
|12 | Understands the relevance between the university's educational policy and clinical practice | 3.33 | 0.68| 3      |
|13 | Has nursing skills that are necessary for practical nurse training in clinical settings   | 3.28 | 0.69| 3      |
|14 | Develops the necessary knowledge for education even though they are inexperienced        | 3.20 | 0.69| 3      |
|15 | Develops professional knowledge for education even in a non-specialty area               | 2.97 | 0.76| 3      |
|16 | Understands the principle of facilities and fields for practical nurse training and the acceptance policy | 3.31 | 0.66| 3      |
|17 | Understands how academic nurse educators and clinical nursing instructors cooperate and collaborate with one another | 3.45 | 0.62| 4      |
|18 | Builds relationships with staff in facilities for practical nurse training                | 3.47 | 0.58| 4      |
|19 | Coordinates practical nurse training matters with uncooperative staff                    | 2.84 | 0.76| 3      |
|20 | Coordinates practical nurse training matters with facilities and clinical nursing instructors | 3.43 | 0.64| 4      |
|21 | Facilitates fostering of students' motivation, personal traits, and initiative based on assessment of their learning situations | 3.12 | 0.63| 3      |
|22 | Assesses students' learning situations on campus objectively                             | 3.13 | 0.69| 3      |
|23 | Assesses students' learning situations during practical nurse training objectively       | 3.25 | 0.63| 3      |
|24 | Assesses students' capacity development                                                 | 3.01 | 0.72| 3      |
|25 | Provides effective advice on students' practical nurse training                          | 3.47 | 0.60| 4      |
|26 | Adjusts the balance between students' right to learn and ethical consideration for patients | 3.39 | 0.65| 3      |
|27 | Advocates for students undergoing practical nurse training                               | 3.48 | 0.61| 4      |
|28 | Understands the position of the person in charge of the curriculum                      | 3.39 | 0.68| 3      |
|29 | Applies pedagogical skills based on understanding of the nursing education framework     | 2.91 | 0.74| 3      |
|30 | Recognizes that educational strategies depend on educational goals                      | 3.14 | 0.73| 3      |
|31 | Understands educational principles and educational theory for planning curriculum        | 2.95 | 0.79| 3      |
|32 | Studies the latest knowledge of health care and medical care systematically               | 2.92 | 0.75| 3      |
|33 | Has a personality that inspires students                                                | 2.81 | 0.64| 3      |
|34 | Is aware of human rights, ethics, and nursing values that respect diverse individuals    | 3.28 | 0.62| 3      |
|35 | Designs curriculum according to needs of the times                                      | 2.59 | 0.89| 3      |
|36 | Provides classes according to needs of the times                                        | 2.78 | 0.78| 3      |
|37 | Implements education, conscious of not only their own specialty but also the relevance of their own specialty to all nursing specialties | 2.85 | 0.75| 3      |
|38 | Facilitates learning that fosters integration of teaching on campus and nursing practice in clinical settings | 2.99 | 0.76| 3      |
|39 | Teaches clinical nursing practice as a learning resource                                 | 3.04 | 0.76| 3      |
|40 | Guides students according to their diversity                                             | 2.92 | 0.69| 3      |
|41 | Provides students with mental and physical consultation                                  | 3.20 | 0.64| 3      |
|42 | Supports communication among students                                                   | 3.00 | 0.66| 3      |
|43 | Demonstrates students' educational perspectives and basic educational knowledge          | 3.18 | 0.67| 3      |
|44 | Provides appropriate education based on the latest medical knowledge and skills          | 2.97 | 0.69| 3      |
this sample data were adequate for the use of factor analysis. Then, 3 items with a factor loading of less than 0.35 were excluded, following which a second analysis was performed on 39 items. Five competency factors were extracted: “facilitating active learning,” “engaging in academic research activities,” “participating in university management,” “undergoing self-directed learning based on professional ethics,” and “practicing education autonomously.” Cronbach’s alpha for each factor was greater than 0.800.

**Discussion**

Turnover among nursing school faculty members in Japan is highly volatile and fluid. As a result, it would be unrealistic to expect a high survey recovery rate. As such, those who responded to this survey can be considered to have an extremely high level of interest in education, make this research data particularly valuable. The most significant competency factor of the academic nurse educators was “Facilitating active learning,” which includes items such as teaching theoretical and clinical knowledge and skills to students, evaluating student learning, and being a role model. The main role and responsibility of academic nurse educators is teaching and facilitating learning, facilitating learner development, and supporting learners’ continuous life-long learning (NLN, 2013; WHO, 2016). Other studies have suggested the following roles and competencies of academic nurse educators: teaching professional knowledge and skills, and providing an appropriate learning environment for supporting and enhancing learning among nursing students (McAllister & Flynn, 2016; Mikkonen et al., 2018; Töytäri et al., 2016). Approaches to fostering active learning in students have also been recommended for implementation in higher education (Sanaie et al., 2019). The present study also suggested “facilitating active learning” as a critical competency for nursing education in universities. Some studies categorize the competency of support or facilitating learning, including teaching nursing knowledge and skills, into pedagogical skills and nursing practice (Guy et al., 2011; Salminen et al., 2013; Zlatanovic et al., 2017). The present study indicates that “facilitating active learning” is indeed a single factor, not two. Nursing competencies are based on the combination of theory and practice, so nursing education should bridge theory and practice, and create and apply clinical evidence-based knowledge. Thus, both practical nursing competency and pedagogical competency are closely connected and are nursing education functions that cannot be simply separated.

“Engaging in academic research activities,” consisting of engagement in research or gathering information about research topics, is one of the most important jobs of academic nurse educators (Ramsburg & Childress, 2012). Educators in higher education generally require a master’s or doctoral degree. Academic nurse educators should also undertake a master’s or doctoral degree or develop advanced research skills (Logan et al., 2016; Paul, 2015) because their research knowledge and application would have a highly positive impact on nursing education (Koivula et al., 2011). In Japan, academic nurse educators under the age of 39 or younger were reported to spend only about 15% of their total work time on research activities (Japan Academy of Nursing Science, 2014). Few academic nurse educators have the support and resources for research capacity building or a work environment that promotes research activities (Fukahori et al., 2015, Shiga et al., 2020). Therefore, a strategy must be developed that allows academic nurse educators in Japan to more actively engage in research activities.

**Table 3.** Continued.

|   | Mean | SD  | Median |
|---|------|-----|--------|
| 45 | Manages personal information appropriately | 3.60 | 0.54  | 4 |
| 46 | Participates in organizational management proactively | 2.81 | 0.84  | 3 |
| 47 | Demonstrates leadership to achieve organizational goals | 2.40 | 0.85  | 2 |
| 48 | Uses the latest findings in their specialized area for education | 2.91 | 0.81  | 3 |
| 49 | Establishes their own research theme and prepares the field for research | 3.06 | 0.86  | 3 |
| 50 | Participates in collaborative research within and beyond the university and gains knowledge and skills for research | 2.69 | 0.96  | 3 |
| 51 | Participates in workshops or academic conferences and broadens their view of academic research | 3.14 | 0.82  | 3 |
| 52 | Actively applies for research grants on campus and competitive research funding | 2.87 | 1.00  | 3 |
| 53 | Ensures instructors consult academic research | 2.95 | 0.97  | 3 |
| 54 | Finds tasks in daily educational activities | 3.15 | 0.74  | 3 |
| 55 | Works on tasks of daily educational activities from a research perspective | 2.78 | 0.88  | 3 |
Table 4. Exploratory Factor Analysis of Competencies of Academic Nurse Educators (Least-Squares Method With Promax Rotation).

| Factors | 1     | 2     | 3     | 4     | 5     |
|---------|-------|-------|-------|-------|-------|
|          |       |       |       |       |       |
| Facilitating active learning (Cronbach’s α = 0.916) |       |       |       |       |       |
| 23 | Assesses students’ learning situations during practical nurse training objectively | 0.969 | -0.016 | -0.126 | 0.102 | -0.202 |
| 22 | Assesses students’ learning situations on campus objectively | 0.831 | 0.115 | -0.174 | 0.087 | -0.027 |
| 24 | Assesses students to evaluate their capacity development | 0.828 | 0.075 | 0.112 | -0.022 | -0.198 |
| 21 | Facilitates fostering of students’ motivation, personal traits, and initiative based on assessment of their learning situations | 0.770 | 0.117 | -0.053 | 0.087 | -0.093 |
| 41 | Provides students with mental and physical consultation | 0.662 | -0.090 | 0.110 | -0.032 | -0.075 |
| 43 | Demonstrates students’ educational perspectives and basic educational knowledge | 0.643 | -0.025 | 0.115 | -0.072 | 0.083 |
| 40 | Guides students according to their diversity | 0.580 | 0.052 | 0.100 | -0.001 | 0.099 |
| 42 | Supports communication among students | 0.546 | -0.066 | 0.097 | 0.033 | 0.023 |
| 39 | Teaches clinical nursing practice as a learning resource | 0.546 | -0.110 | 0.019 | -0.095 | 0.334 |
| 19 | Coordinates practical nurse training matters with uncooperative staff | 0.441 | -0.077 | 0.138 | 0.132 | 0.063 |
| 13 | Has nursing skills that are necessary for practical nurse training in clinical settings | 0.398 | -0.092 | -0.162 | 0.109 | 0.286 |
| 33 | Has a personality that inspires students | 0.388 | -0.012 | 0.204 | 0.063 | 0.032 |
| 34 | Is aware of human rights, ethics, and nursing values that respect diverse individualities | 0.370 | -0.043 | -0.086 | 0.269 | 0.263 |
| Engaging in academic research activities (Cronbach’s α = 0.900) |       |       |       |       |       |
| 53 | Ensures instructors consult academic research | -0.008 | 0.894 | -0.267 | 0.016 | -0.051 |
| 52 | Actively applies for research grants on campus and competitive research funding | 0.077 | 0.819 | 0.008 | -0.124 | -0.122 |
| 49 | Establishes their own research theme and ensures the field for research | 0.139 | 0.796 | -0.012 | -0.060 | -0.129 |
| 51 | Participates in workshops or academic conferences and broadens their view of academic research | -0.086 | 0.772 | 0.042 | 0.079 | -0.022 |
| 50 | Participates in collaborative research within and beyond the university and gains knowledge and skills for research | -0.140 | 0.692 | 0.195 | 0.023 | -0.006 |
| 55 | Works on tasks of daily educational activities from a research perspective | -0.045 | 0.611 | 0.129 | -0.040 | 0.181 |
| 54 | Finds tasks in daily educational activities | 0.066 | 0.477 | -0.126 | 0.101 | 0.329 |
| 48 | Uses the latest findings in their specialized area for education | -0.036 | 0.371 | 0.214 | -0.011 | 0.338 |
| Participating in university management (Cronbach’s α = 0.858) |       |       |       |       |       |
| 47 | Demonstrates leadership to achieve organizational goals | 0.005 | 0.022 | 0.883 | 0.060 | -0.108 |
| 3 | Plays their role actively in university management, such as in a committee | 0.093 | -0.142 | 0.776 | 0.077 | -0.093 |
| 46 | Participates in organizational management proactively | 0.012 | 0.005 | 0.693 | 0.116 | -0.021 |
| 4 | Establishes a network within and beyond the university, leading to problem solving | -0.044 | 0.183 | 0.654 | 0.101 | -0.172 |
| 35 | Designs curriculum according to needs of the times | 0.074 | -0.008 | 0.534 | -0.086 | 0.267 |
| 5 | Has short- and long-term goals in their professional life | -0.106 | 0.336 | 0.393 | 0.229 | -0.030 |
| Undertaking self-directed learning based on professional ethics (Cronbach’s α = 0.811) |       |       |       |       |       |
| 9 | Shows understanding of other persons in interpersonal relationships | 0.150 | -0.039 | 0.176 | 0.541 | 0.033 |
| 11 | Reflects on their own behavior in terms of professional ethics | 0.164 | -0.062 | 0.049 | 0.524 | 0.283 |
| 10 | Engages in self-improvement to enhance ethical sensitivity | 0.039 | 0.128 | 0.033 | 0.476 | 0.263 |
| 8 | Expresses themselves in interpersonal relationships | 0.088 | 0.002 | 0.334 | 0.474 | 0.013 |
| Practicing education autonomously (Cronbach’s α = 0.886) |       |       |       |       |       |
| 15 | Develops professional knowledge for education, even in a non-specialty area | -0.191 | -0.149 | -0.070 | 0.304 | 0.801 |

(continued)
“Participating in university management,” including curriculum development and active participation in an organizational committee, ensures students’ lives and learning are satisfactory and adequate. Organizational management competency has been the role of university educators so as to foster educational activity and increase the quality of education (Arimoto, 2007; Ishii, 2010; Nilson & Miller, 2009). Academic nurse educators should also be involved in management activities that create and improve nursing education programs that are highly professional and nurture the success of a positive learning environment (Guy et al., 2011; WHO, 2016; Zlatanovic et al., 2017). Therefore, academic nurse educators are expected to actively participate in organizational management and decision-making processes.

Academic educators put effort into self-development or critical self-reflection to improve themselves professionally in terms of ethics and offer effective education to students (Pedrosa-de-Jesus et al., 2016). Professional ethical competency among academic nurse educators should be enhanced by participating in ongoing professional self-development, engaging in continued learning, or self-reflecting on their own ethical sensitivity (Mikkonen et al., 2019; WHO, 2016). Thus, “undergoing self-directed learning based on professional ethics,” consisting of academic nurse educators’ self-reflection on their own professional behavior or interpersonal relationships, was extracted as a competency factor in this study. The questionnaire items represent the competency of academic nurse educators’ own career development in the long term, and they are considered to be engaging in self-directed learning as an academic nurse educator. In addition, the image of an ideal academic nurse educator based on the design of their career development might have a positive effect on their teaching or relationship with students. Therefore, such items are expected to become additional competencies in academic nurse educators.

“Practicing education autonomously,” consisting of the provision of education with the latest knowledge or helping students to learn how to link theory to practice autonomously, is a high-need area for academic nurse educators, especially those in higher education. Academic nurse educators develop their abilities so that they can implement education flexibly, corresponding to continuous updating of their knowledge, skills, and technology related to the health sciences, changing social situations, working in a wide variety of care settings, or diversifying nursing students (Adelman-Mullally et al., 2013; Salminen et al., 2010). Academic nurse educators should promote the competency of “practicing education autonomously” to develop nursing personnel who are highly professional and meet the demand for complex health care needs. “Practicing education autonomously” showed moderate correlation
coefficients with “facilitating active learning” and “participating in university management.” These three factors are in synergy with each other and produce a positive educational outcome. Having academic nursing educators actively “participating in university management” and “practicing education autonomously” would lead to the creation of a desirable educational environment and curriculum design based on traditional principles and the latest best evidence, thereby motivating nursing students to learn actively. To provide the best learning environment and program, academic nurse educators should conduct high-quality academic research with critical inquiry and link their research activities to their instruction. Moreover, academic nurse educators should be role models with a professional attitude and ethical sensitivity by showing enthusiasm for teaching nursing to inspire and motive nursing students.

This study proposed more specific competencies for academic nurse educators in terms of both domains and items. In particular, self-directed learning skills were extracted as one of the competencies for academic nurse educators in this study, although the Nurse Educator Core Competencies (WHO, 2016) has not been clearly indicated. Having self-directed learning skills as adult learners is an important competency for academic educators (Lopes & Cunha, 2017; Morris, 2019). In contrast to the Nurse Educator Core Competencies (WHO, 2016), this study showed that both personal and professional individual traits and values were components constituting competency in academic nurse educators. Thus, the competencies of academic nurse educators identified by the current study would not only be readily observable professional knowledge and skills but also less obvious personal traits, values, and attitudes in a broader sense, as well as learner autonomy.

The competencies identified in this study are essential for academic nurse educators to provide sophisticated nursing education. Accordingly, academic nurse educators should be able to clearly recognize what they must do and what responsibilities they must accept. However, their individual competencies will depend on stage of their career as an academic nurse educator. Therefore, support systems, mentoring, faculty development programs, and e-learning for academic nurse educators in accordance with their academic positions should be established to comprehensively cultivate their competencies.

**Limitations**

The current study has several limitations. First, although the survey was aimed at all university academic nurse educators, the response rate was low. This may be due to our reliance on the deans of nursing universities to distribute the survey invitation letter to academic nurse educators. Therefore, some educators may not have received our invitation to participate and our results should be interpreted with caution. Additionally, the respondents were predominantly women, and so the results may be of limited generalizability. Second, this study was based solely on a self-reported questionnaire. Objective evaluation would be necessary to more accurately clarify the competency of academic nurse educators. Third, to develop the concept of competency for academic nurse educators so that it may be generalized regardless of country differences, research should be conducted globally and not limited to Japan. Fourth, the results of this study were based on an exploratory factor analysis and would benefit from a subsequent study with a larger sample size that would allow for a confirmatory factor analysis to be conducted.

Finally, the academic nurse educators surveyed in this study might have been highly motivated toward education and study in nursing. The responses of those who have lower motivation and/or interest in education and study in nursing are not fully reflected in our results. However, this study might describe the current status of academic nurse educators who are actively willing to improve not only the quality of nursing education, but also the competency of academic nurse educators. Therefore, the present study contributes to further investigation of competency of academic nurse educators.

**Conclusion**

This research identified not only readily observable competencies such professional knowledge and skills but also less obvious personal traits, values, and attitudes in a broader sense. Competency for academic nurse educators comprises five elements: “facilitating active learning,” “engaging in academic research activities,” “participating in university management,” “undertaking self-directed learning based on professional ethics,” and “practicing education autonomously.” These are essential for academic nurse educators to provide high-quality nursing education. Academic nurse educators should clearly recognize what competencies they are expected to develop and a support system should be established to comprehensively cultivate these competencies. The cultivation of the competencies is the first step with further research needed to develop a tool to assess the nurse educator’s competencies. This will ensure professional development of the educator and improve the education provided to future health care professionals.

**Acknowledgement**

We are extremely grateful to the participants of this study who cooperated in data collection.
Authors’ Contributions
Concept and design: All authors. Collection of data: All authors. Statistical analysis and interpretation: All authors. Manuscript writing: M.S. Critical review of the manuscript: A.F. and N.S. Approval of final manuscript: All authors.

Declaration of Conflicting Interests
The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding
The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This study was supported by a Grant-in-Aid for Scientific Research (C) (No. 18K10239).

ORCID iD
Miho Satoh https://orcid.org/0000-0001-8939-5595

References
Adelman-Mullally, T., Mulder, C. K., McCarter-Spalding, D. E., Hagler, D. A., Gaberson, K. B., Hanner, M. B., Oermann, M. H., Speakman, E. T., Yoder-Wise, P. S., & Young, P. K. (2013). The clinical nurse educator as leader. Nurse Education in Practice, 13, 29–34.

Arimoto, A. (2007). Reflections on the changing relevance of the academic profession in Japan. In M. Kogan & U. Teichler (Eds.), Key challenges to the academic profession, UNESCO forum on higher education, research and knowledge (pp. 29–47). International Center for Higher Education Research.

Australian Nurse Teachers’ Society. (2010). Australian nurse teachers’ competencies. https://www.ants.org.au/ants/plugin file.php/2208/mod_resource/content/10/ANTS revised PPS 8apr10b.pdf

Doi, Y., & Hosoda Y. (2017). Assessing the content validity of the nursing faculty competencies self-assessment scale. Osaka Medical College Journal of Nursing Research, 7, 90–97.

Epstein, R. M., & Hundert, E. M. (2002). Defining and assessing professional competence. Journal of the American Medical Association, 287, 226–235.

Fukahori, H., Miyashita, M., Oyama, Y., Atogami, F., Okaya, K., Kashiwagi, M., Kono, A., Takamizawa, E., Narama, M., & Yoshizawa, T. (2015). Factors related to perceived barriers to conducting research and expected support from the Japan Academy of Nursing Science among young Japanese nursing researchers. Journal of Japan Academy of Nursing Science, 35, 203–214 (in Japanese).

Garside, J. R., & Nhemachena, J. Z. Z. (2013). A concept analysis of competence and its transition in nursing. Nurse Education Today, 33, 541–545.

Guerriero, S. (Ed.). (2017). Pedagogical knowledge and the changing nature of the teaching profession. OECD Publishing. http://www.oecd-ilibrary.org/education/peda

gogical-knowledge-and-the-changing-nature-of-the-teacher-profession_9789264270695-en

Guy, J., Taylor, C., Roden, J., Blundell, J., & Tolhurst, G. (2011). Reframing the Australian nurse teacher competencies: Do they reflect the ‘REAL’ world of nurse teacher practice? Nurse Education Today, 31, 231–237.

Howard, M. C. (2016). A review of exploratory factor analysis decisions and overview of current practices: What are we doing and how can we improve? International Journal of Human-Computer Interaction, 32, 51–62.

Immonen, K., Oikarainen, A., Tomietto, M., Kääriäinen, M., Tuomikoski, A. M., Kaučić, B. M., Filej, B., Riklikiene, O., Vizayay-Moreno, M. F., Perez-Cañaveras, R. M., Raeve, P. D., & Mikkonen, K. (2019). Assessment of nursing students’ competence in clinical practice: A systematic review of reviews. International Journal of Nursing Studies, 100, 103414. https://doi.org/10.1016/j.ijnurstu.2019.103414

Ishii, M. (2010). Career stage of academic professions and the issues in faculty development: Results of an investigation at Hiroshima University and Tohoku University. CAHE Journal of Higher Education Tohoku University, 5, 29–42 (in Japanese).

Jackson, D., Peters, K., Andrew, S., Salamonson, Y., & Halcomb, E. J. (2011). “If you haven’t got a PhD, you’re not going to get a job”: The PhD as a hurdle to continuing academic employment in nursing. Nurse Education Today, 31, 340–344.

Japan Academy of Nursing Science. (2014). Survey report on the implementation of research by young nurses. https://www.jans.or.jp/uploads/files/committee/2013sep_report.pdf (in Japanese).

Japan Association of Nursing Programs in Universities. (2011). The FD guideline for younger nurse educators. http://www.janpu.or.jp/wp-content/uploads/2012/07/H23-FD-forHP.pdf (in Japanese).

Japan Association of Nursing Programs in Universities. (2013). Report on educator training in nursing graduate schools for educational system enhancement. http://www.janpu.or.jp/wp-content/uploads/2012/12/H24MEXT-project2.pdf (in Japanese).

Koivula, M., Tarkka, M.T., Simonen, M., Katajisto, J., & Salminen, L. (2011). Research utilisation among nursing teachers in Finland: A national survey. Nurse Education Today, 31, 24–30.

Kuivila, H. M., Mikkonen, K., Sjögren, T., Koivula, M., Koskimäki, M., Männistö, M., Lukkarila, P., & Kääriäinen, M. (2020). Health science student teachers’ perceptions of teacher competence: A qualitative study. Nurse Education Today, 84, 104210. https://doi.org/10.1016/j.nedt.2019.104210

Logan, P. A., Gallimore, D., & Jordan, S. (2016). Transition from clinician to academic: An interview study of the experiences of UK and Australian registered nurses. Journal of Advanced Nursing, 72, 593–604.

Lopes, J. B., & Cunha, A. E. (2017). Self-directed professional development to improve effective teaching: Key points for a model. Teaching and Teacher Education, 68, 262–274.

Maruo, S., Matsuoka, S., Setou, N., Takeuchi, S., Arima, S., & Okamoto, T. (2017). Evaluation of faculty development...
A vision for doctoral education – A European perspective. Nurse Education Today, 33, 312–316.
Salminen, M., Melender, H. L., & Leino-Kilpi, H. (2009). The competence of student nurse teachers. International Journal of Nursing Education Scholarship, 6, Article 35. https://doi.org/10.2202
Salminen, L., Minna, S., Sanna, K., Jouko, K., & Helena, L. K. (2013). The competence and the cooperation of nurse educators. Nurse Education Today, 33, 1376–1381.
Salminen, L., Stolt, M., Saarikoski, M., Suikkala, A., Vaaritio, H., & Leino-Kilpi, H. (2010). Future challenges for nursing education – A European perspective. Nurse Education Today, 30, 233–238.
Sanaie, N., Vasli, P., Sedighi, L., & Sadeghi, B. (2019). Comparing the effect of lecture and Jigsaw teaching strategies on the T nursing students’ self-regulated learning and academic motivation: A quasi-experimental study. Nurse Education Today, 79, 35–40.
Science Council of Japan. (2017). Japanese standard for quality assurance of higher education-nursing. http://www.scj.go.jp/ja/info/kohyo/pdf/kohyo-23-h170929-9.pdf (in Japanese)
Shiga, R., Ohashi, Y., Kawakubo, E., Takada, R., Iijima, A., Shimamura, R., & Iga, S. (2020). Review: Current status and issues for nursing university faculties to conduct researches. Josai International University bulletin, 28, 55–67 (in Japanese).
Spencer, L., & Spencer, S. (1993). Competency at work: Models for superior performance. John Wiley and Sons.
Takase, M., Niitani, M., & Imai, T. (2020). What educators could do to facilitate students’ use of a deep approach to learning: A multisite cross-sectional design. Nurse Education Today, 89, 10422. https://doi.org/10.1016/j.nedt.2020.10422
Töytäri, A., Piirainen, A., Tynjälä, P., Vanhanen-Nautilin, L., Mäki, K., & Ilves, V. (2016). Higher education teachers’ descriptions of their own learning: A large-scale study of Finnish Universities of Applied Sciences. Higher Education Research and Development, 35, 1284–1297.
World Health Organization. (2016). Nurse educator core competencies. https://www.who.int/hrh/nursing,midwifery/nurse_educator050416.pdf
Zlatanović, T., Havnes, A., & Mausthagen, S. (2017). A research review of nurse teachers’ competencies. Vocations and Learning, 10, 201–233.

Seminar 2015 on interprofessional education practice: A focus on competency of university faculty members. Konan Women’s College researches, 11, 19–24 (in Japanese).
McAllister, M., & Flynn, T. (2016). The Capabilities of Nurse Educators (CONE) questionnaire: Development and evaluation. Nurse Education Today, 39, 122–127.
Mikkonen, K., Tuomikoski, A. M., Sjögren, T., Piirainen, A., Koskinen, C., Koskinen, M., Koivula, M., Sormunen, M., Saaranen, T., Wallin, O., Salminen, L., Sormunen, M., Saaranen, T., Kuivila, H. M., & Kääriäinen, M. (2019). Qualitative study of social and healthcare educators’ perceptions of their competency in education. Health & Social Care in the Community, 27, 1555–1563.
Mikkonen, K., Tuomikoski, A. M., Sjögren, T., Piirainen, A., Koskinen, C., Koskinen, M., Koivula, M., Sormunen, M., Saaranen, T., Salminen, L., Koskimäki, M., Ruotsalainen, H., Lähteenväki, M. L., Wallin, O., Mäki-Hakola, H., & Kääriäinen, M. (2018). Competence areas of health science teachers—A systematic review of quantitative studies. Nurse Education Today, 70, 77–86.
Mikkonen, K., Tuomikoski, A. M., Sjögren, T., Koivula, M., Koskimäki, M., Lähteenväki, M. L., Mäki-Hakola, H., Wallin, O., Sormunen, M., Saaranen, T., Koskinen, C., Koskinen, M., Salminen, L., Holopainen, A., & Kääriäinen, M. (2020). Development and testing of an instrument (HeSoEduCo) for health and social care educators’ competence in professional education. Nurse Education Today, 84, 104239. https://doi.org/10.1016/j.nedt.2019.104239
Ministry of Education, Culture, Sports, Science and Technology. (2017). The model core curriculum of nursing education. http://www.mext.go.jp/component/a_menu/education/detail/__icsFiles/afieldfile/2017/10/31/1217788_3.pdf (in Japanese)
Ministry of Health, Labour and Welfare. (2010). Ministry of Health, Labour and Welfare. (2010). http://www.mhlw.go.jp/shingi/2010/02/dl/s0217-7b.pdf (in Japanese).
Morris, T. H. (2019). Self-directed learning: A fundamental competence in a rapidly changing world. International Review of Education, 65, 633–653.
National League for Nursing. (2013). A vision for doctoral preparation for nurse educators. A living document from the National League for Nursing. http://www.nln.org/docs/default-source/about/nln-vision-series-%28position-statements%29/nlnvision-6.pdf
Nilson, L. B., & Miller, J. E. (Eds.). (2009). To improve the academy: Resource for faculty, instructional, and organizational development (Vol. 28). John Wiley & Sons, Inc.
Paul, P. A. (2015). Transition from novice adjunct to experienced associate degree nurse educator: A comparative approach. Teaching and Learning in Nursing, 10, 3–11.
Pedrosa-de-Jesus, H., Guerra, C., & Watts, M. (2016). University teachers’ self-reflection on their academic growth. Professional Development in Education, 43, 454–473.
Ramsburg, L., & Childress, R. (2012). An initial investigation of the applicability of the Dreyfus skill acquisition model to the professional development of nurse educators. Nursing Education Perspectives, 33, 312–316.
Salminen, L., Melender, H. L., & Leino-Kilpi, H. (2009). The competence of student nurse teachers. International Journal of Nursing Education Scholarship, 6, Article 35. https://doi.org/10.2202
Sanaie, N., Vasli, P., Sedighi, L., & Sadeghi, B. (2019). Comparing the effect of lecture and Jigsaw teaching strategies on the T nursing students’ self-regulated learning and academic motivation: A quasi-experimental study. Nurse Education Today, 79, 35–40.
Science Council of Japan. (2017). Japanese standard for quality assurance of higher education-nursing. http://www.scj.go.jp/ja/info/kohyo/pdf/kohyo-23-h170929-9.pdf (in Japanese)
Shiga, R., Ohashi, Y., Kawakubo, E., Takada, R., Iijima, A., Shimamura, R., & Iga, S. (2020). Review: Current status and issues for nursing university faculties to conduct researches. Josai International University bulletin, 28, 55–67 (in Japanese).
Spencer, L., & Spencer, S. (1993). Competency at work: Models for superior performance. John Wiley and Sons.
Takase, M., Niitani, M., & Imai, T. (2020). What educators could do to facilitate students’ use of a deep approach to learning: A multisite cross-sectional design. Nurse Education Today, 89, 10422. https://doi.org/10.1016/j.nedt.2020.10422
Töytäri, A., Piirainen, A., Tynjälä, P., Vanhanen-Nautilin, L., Mäki, K., & Ilves, V. (2016). Higher education teachers’ descriptions of their own learning: A large-scale study of Finnish Universities of Applied Sciences. Higher Education Research and Development, 35, 1284–1297.
World Health Organization. (2016). Nurse educator core competencies. https://www.who.int/hrh/nursing,midwifery/nurse_educator050416.pdf
Zlatanović, T., Havnes, A., & Mausthagen, S. (2017). A research review of nurse teachers’ competencies. Vocations and Learning, 10, 201–233.

Satoh et al.