



Field Education Model for Assistant Nurses using Edutech : Flipped Class

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Abstract

Purpose - This study is to suggest a model of field education in the Assistant Nurses curriculum using edutech and to produce competent Assistant Nurses students reflecting the requirements of various medical fields. This model expects to upgrade the quality of the field education and to provide an Assistant Nurses school with standardized field education tools using edutech.

Research design, data, and methodology – Throughout the review of the related thesis, most of them were studied on Assistant Nurses' job satisfaction, conflicts with other jobs in hospitals, and Assistant Nurses' job area in nursing hospitals. To study the current field education for Assistant Nurses students in hospitals, it used interviewing the heads of the hospital nursing department and reflecting on their interview results to develop the model of field education.

Result - The field education model with edutech is processed with flipped class. Each area in flipped class is designed by applications and webs which is friendly to both teachers and students.

Conclusion – This study presents a simple and easy process of field education using edutech. In the next study, it needs to find the precious results of comparison between students educated by the new model in field education in the Assistant Nurses' curriculum or not.

Keywords: Field education, Field practice, Assistant Nurses, Edutech, E-learning, Flipped class

JEL Classification Code: A20, I20.

1. Introduction

Assistant Nurses(AN) are those who have completed the curriculum prescribed by the Regulations of the Ministry of Health and Welfare and have passed the certification test, and in the primary medical institution (including the hospital, dental clinic, and oriental clinic) replace Registered Nurses (RN). Since 1967, Korea has certified AN in charge of nursing as health nurses at the forefront of various health projects, and overseas working in Germany. The conditions for the national examination for AN must be at least 740 hours in theory and at least 780 hours in medical institutions practicum to complete a total of 1,520 hours of curriculum(Medical Service Act, 2015).

This can be seen as a manpower equivalent to a Licensed Practical Nurse (LPN) who receives a two-year or one-year curriculum at a community college or vocational school in the United States working at a medical institution. In particular, in primary medical institutions mainly in charge of outpatient treatment, AN can actively engage in nursing work under the guidance and supervision of doctors as a substitute for RN.

The recognition of AN qualification was changed from the Minister of Health and Welfare to the Governor of the Province and was upgraded to the Minister of Health and Welfare again due to the revision of the Medical Law on December 29, 2015. The Ministry of Health and Welfare has been conducting a designated evaluation since 2017 for education and training institutions to recognize the importance of the role of AN in the healthcare field. Given the government's intention and the social role of AN, training institutions should also strive to nurture AN who can perform various nursing tasks required by the medical field. Therefore, the research is needed to improve consistent AN' education methods so that upwardly standardized AN' education can be established nationwide. Among lifelong vocational institutes that train nursing assistants, state-run training institutions designated by the Ministry of Employment and Labor must meet all of the evaluation criteria, such as training teacher qualifications, facilities, and equipment requirements. Both the designated evaluation by the Ministry of Health and Welfare and by the Ministry of Employment and Labor have only operating conditions for theoretical education, and there are no guidelines for the operation of field education. In addition, although about 51% of the total nursing assistant curriculum is field training at medical institutions, there are no regular educational guidelines and there are no systematic teaching methods to approach field education. In reality, nursing assistant trainees are nursing replacement personnel at medical institutions, and the satisfaction of field education participants is lower than theoretical education(Kim, 2019).

This report aims to identify problems with field practice education at nursing assistants' medical institutions and present solutions. To summarize the problems of field practice education in AN curriculum, first, the prolonged training period during the whole curriculum, second, the diversity of trainees (age, gender, academic background, and social experience), third, the lack of a systematic education system for providing high-quality educational services during the training period.

We intend to design a field practice education model to enhance trainees' satisfaction with field practice at medical institutions at lifelong vocational institutions. Considering the characteristics of field practice, the field practice education model is designed using smart tools adopting the flipped class, a previously studied class model, on the premise of cooperation between education and training institutions and the nursing department of practical medical institutions.

2. Background of Education Distinction of AN

2.1. Characteristics of AN Education

AN are those who have completed 740 hours of theory, 780 hours of field practice education at medical institutions, and a total of 1,520 hours at training institutions designated by the Medical Service Act, and are recognized by the Minister of Health and Welfare. Theoretical education delivers basic nursing knowledge and skills, and field practice education acquires the latest nursing skills in a rapidly changing medical institution environment. 568 lifelong vocational academies across the country have been evaluated by the Ministry of Health and Welfare to provide nursing assistant education(Korean Accreditation Board of Nursing Education, 2018).

Among them, academies approved and operated as state-run training institutions by the Ministry of Employment and Labor are designated as state-run education and training institutions after verifying the appropriateness of training facilities, equipment, training contents, training instructors, and training costs. Theoretical education is evaluated in consideration of specific training contents for each subject, teaching methods, and evaluation methods, appropriateness of time allocation for each subject, and securing legal completion time. Both the Ministry of Health and Welfare's designated evaluation and the Ministry of Employment and Labor's evaluation are specifically

evaluated on theoretical subjects, but the evaluation criteria for field education only evaluate whether legal completion time is met.

AN students must take at least 780 hours in medical institution practice. Of these, more than 400 hours must be practiced at hospital-level medical institutions. The hospital-level medical institutions include hospitals, nursing hospitals, dental hospitals, oriental medicine hospitals, mental hospitals, and general hospitals. Depending on the characteristics of the region, all 780 hours can be completed at hospital-level medical institutions and two or more medical institutions, including some private clinics. Field practice education is a long-term training period that takes about 98 days based on 8 hours a day. It is 51% of the total AN' education and training time, and students for AN are educated more outside the education and training institution for field practice than inside for the nursing theory. Pre-education, such as infections and safety accidents that may occur during this period, should be preceded, and various cases during field practice should be shared with trainees to prepare for the practice. It is also important points for the field practice which is understanding the medical environment, communicating with medical personnel and medical officials, and learning medical nursing skills.

2.2. Problems of Nursing Assistant Education

The National Competency Standards (NCS) provides training content for each competency unit so that the state can standardize the knowledge, skills, and attitudes required by industrial sites and provide the training necessary for the job. NCS has developed training content for nursing care workers, a latecomer-related nursing certificates. The Ministry of Health and Welfare also specified theoretical subjects and assignment time for curriculum for care workers training. On the other hand, the NCS for the assistant nurse curriculum has not been developed. Even more, the curriculum among institutions is very different up to the philosophy of their heads. In the case of lifelong vocational academies that conduct state-funded projects by the Ministry of Employment and Labor, theoretical education is operated based on recommended guidelines. However, the Ministry of Employment and Labor also does not have field training contents, teaching guideline, and evaluation methods, so the field practice education is determined by the heads of nursing department and their philosophy to train the AN.

Nursing assistant field training is replaced by nursing personnel in hospitals and private clinics that accommodate trainees during the period of providing unpaid labor (Lee, 2022). In the case of hospitals with 30 beds or more, the head of the nursing department works full-time and manages trainees with senior nurses in each department, providing an environment where trainees can practice more safely compared to individual clinics. Even though there are supervisors in hospitals, the field practice institution, they only concern about the attendance of trainees, and there are hardly field training contents. Because of lack of education in field practice education in medical institutions, there exists issues that are needed to solve, such as issues of communication tools between medical institutions and education & training institutions, establishment of trainee as a student not a worker, adaptation to medical skills and environment, and communication rout to reflect trainees' feedback. By concerning in these issues, it can be expected improving the field practice education for AN.

As a result of searching with the keyword "nursing assistant" from 2011 to 2023 on the RISS site, there are 103 academic papers and 111 theses. Out of them, there are 3 studies each concerned about nursing assistant education or nursing academy students. Most of the studies are related to nursing assistant license holders, such as job satisfaction of AN, conflicts with other occupations, and surveys of AN' job areas by type of medical institution or nursing facility. Of the total 6 papers related to nursing assistant education, there is one paper on the satisfaction of nursing assistant field training trainees (Lee, 2022). In addition to nursing assistant education, many studies on vocational high schools and vocational colleges requiring the field training include satisfaction with students who have experienced field training, status of field training system and improvement measure, development of field training evaluation criteria, preparation of field training manuals, and industry-academic cooperation for efficient field training.

3. Methodology

This study developed the field practice education model to compensate for the issues above in medical institutions. This model can help to improve current issues in field practice education of AN, and to suggest solutions to the head of nursing department in regard of field education by cooperating with education & training institutions. The field practice education model for nursing assistants is composed of flipped classes. It makes the head of nursing department to reduce difficulties in planning and executing field practice education, and evaluating trainees.

This study is based on an interview with the head of nursing department in hospitals selected by the type of medical institutions, and confirms compulsory education required in the field. It makes education & training institutions to reorganize the educational contents for trainees to prepare for the field training in hospitals. The nursing department to be interviewed shall be selected by type of hospital-level medical institutions and limited to the head of the nursing department of a total of four hospitals; oriental medicine hospitals, nursing hospitals, and general hospitals. Dental hospitals and mental hospitals are excluded from interviews, considering that medical institutions subject to nursing assistant practice or that there are relatively few trainees. There are four interview questions. First, we will find out how field training for each type of medical institutions is being conducted. Second, ask about topics that can be trained in the field or should be trained in field practice. Third, find out what nursing assistant trainees mean in medical institutions. Fourth, confirm the intention to share educational materials provided by education & training institutions and select prior education topics required in the medical field. After the interview, the field education model is organized into the flipped class, and it presents the main education contents and trainee management methods for each area.

STUDY METHODOLOGY

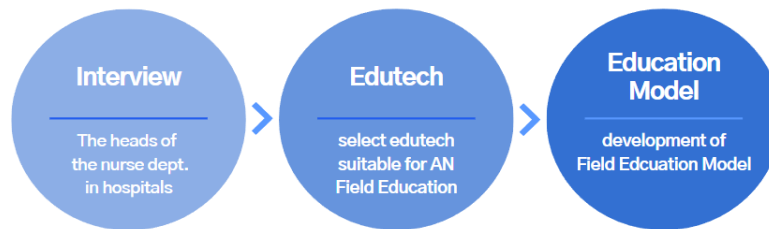


Figure 1: Study Flow Chart

4. Result

4.1. Results of the Interview with the Heads of Nursing Department in Medical Institutions

The results of the interview with the person in charge of field training in a medical institution are as follows. First, it is about the current status of field training guidance. It was suggested that the nursing departments of the four medical institutions do not have practical training materials only for nursing assistants and that hospitals and general hospitals only provide precautions on infection control and practice attitudes on the first day of the field practice. In nursing hospitals and oriental medicine hospitals, the trainees have been assigned as nursing assistants from the first day of practice, and there is no designated standard manuals to educate the trainees. Training is only executed by chief nurse's judgement.

Second, it is about practical education in medical institutions. Due to the recent outbreak of COVID-19 infectious diseases, the importance of infection control in medical institutions is emphasized. There was an opinion that infection control education is necessary because nursing assistant trainees also work in medical institutions. However, in the case of general hospitals, the infection control team is in charge of training assistant trainees in the field, but it is difficult to assign training personnel because the infection control team is not mandatory for hospitals, oriental medicine hospitals, and nursing hospitals with less than 200 beds.

Third, it is the role of a nursing assistant trainee in a medical institution. General hospitals are relatively smooth in recruiting nursing personnel, and assistant trainees practice under the management of each department head. However, in the case of hospitals, oriental medicine hospitals, and nursing hospitals, it is difficult to achieve the purpose of field practice for AN because there are not enough nurses available even to meet the needs of patient population. So, trainees are generally replaced with nursing staff.

Fourth, there is a concern about the necessity of cooperation with educational & training institutions. Education & training institutions should provide education essential for field practice in advance, and prepare for field practice by

securing practical class time as much as theory. It was suggested that infection control, vital signs measurement, and how to wear protective equipment are the most urgent practical classes required by the nursing department.

4.2. Field Practice Training Model

A flipped class model using edutech is designed to supplement the characteristics and issues of field practice in medical institutions so that efficient field practice can be carried out. The main characteristic was to select edutech, which can be easily used, as the age of participants in the nursing assistant education and training course varies from their 20s to 50s. Figure 1 explains the whole process of field education by flipped class.



Figure 2: Field Practice Education Model by Flipped Class Using Edutech

4.2.1. Pre-class: Preparation

In the pre-orientation, it conducts an online survey to ask trainees questions about the assigned practice hospital. The questionnaires are classified by the type of hospitals, and it invites trainees who have recently completed the field practice, and they will receive the questionnaires in advance to prepare the interview. Zoom or metaverse is used to allow prospective trainees and trainees who complete practice to answer questions. Zoom is a non-face-to-face meeting method that has been exposed to the educational environment a lot since COVID-19, and has the convenience of accessing links provided by teachers without signing up for membership. However, the disadvantage is that the questioner or respondent is hesitant to exposure to his or her face to others. As a way to compensate for this, Metaverse Ifland provided by SK Telecom can be accessed as a trainee's avatar in a virtual space to induce more active participation.

In addition, it is very important to provide images, videos for each department of field training in medical institutions. Practice medical institutions are limited to hospital-level defined in Medical Service Law; hospitals, general hospitals, oriental medicine hospitals, nursing hospitals, and major practice education contents for each medical institution are subdivided by their departments in hospitals. After conducting a survey on the contents of essential practice with the nursing department, the contents are filmed in the practice hospital and loaded on the training institution Learning Management System (LMS). Prospective trainees can fully prepare for the field practice by learning the precautions and basic knowledge of each type of practice hospital through the videos.

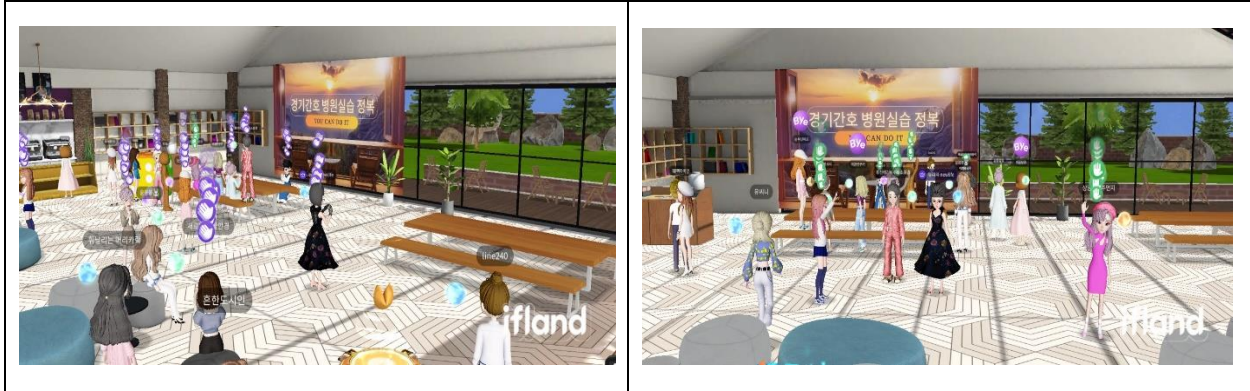


Figure 3: Ifland Metaverse serviced by SK Telecom

4.2.2. In-class: Field Training

Education & training institutions consult training materials with the nursing department of the medical institutions in advance, and the materials are loaded on the training institution’s LMS. The nursing department of the practical medical institution can use them as educational materials. Practical medical institutions can reduce the burden of producing field education materials and provide regular practical training for nursing assistant trainees. During the field training period, trainees attend medical institutions entrusted without attending academies, their attendance can be managed in real time through Google Spread provided by education & training institutions. The trainee posts the contents learned in field practice institutions twice a week on the padlet, and the training teachers check the assignments and gives them feedback. Teachers of educational & training institutions open conference by zooming in for each hospital once a month. The teachers are conducted with the prior consent of the nursing department of the practical medical institution, and the trainee carries his cell phone and earphones and zooms in at a place designated by the hospital. In order to prepare for the change of departments in the practical medical institution, trainees will be guided to write a practical manual and upload it to the padlet, including the contents of each department of each hospital and the daily practice schedule. When zooming in once a month, teachers use the data uploaded to the padlet for which trainees can share prior knowledge of the changing department with each other. In order to identify medical devices necessary for nursing work during practice, education & training institutions develop an app. It makes trainees to search knowledge of the use of the device frequently. When the mobile phone app is launched, it is linked to the camera to guide the name of the device, proper use method, disinfection method, and precautions for use.

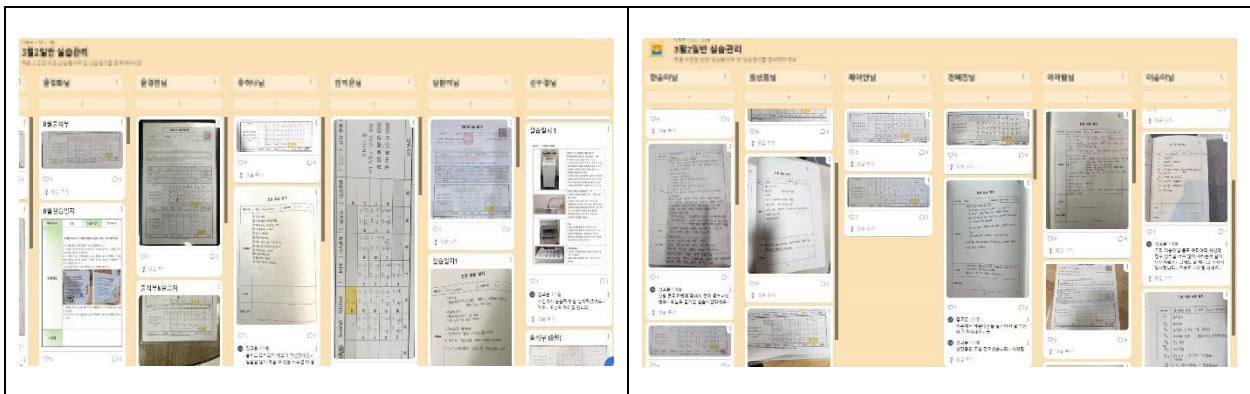


Figure 4: Padlet worksheet

4.2.3. Post-class: After Class

It is a stage where trainees who have completed the practice reflect on their experience. The teachers plan prior learning by organizing the results of the online survey and using the trainee's feedback on practical education as data

for the preparation of the next practical education. Trainees conduct self-assessment of fieldwork. Self-evaluation uses a 5-point scale of check-list uploaded to Naver Band.

5. Conclusion

Nursing assistant field training provides long-term practical training, but it is being replaced by simple repetitive practice contents and manpower from practical medical institutions. However, in the medical field, AN do not only simple nursing work but also active nursing work under the guidance of medical personnel. Therefore, field practice should be approached educationally to produce competent AN without relying solely on theoretical knowledge. Using the practical education information provided by the education & training institution, the practical education institution is expected to be able to provide regular practical training, and trainees will be able to receive systematic practical guidance during the field training period.

In order to convert nursing assistant field practice to an educational approach, this study presents a nursing assistant field practice education model as a flipped class using edutech. In order for the proposed model to be implemented efficiently, first, active cooperation from the nursing department of the practical medical institution is required. In addition, The Ministry of Health and Welfare should also make efforts along with the nursing staff in hospitals by adding evaluation criteria to approve hospitals, which encourages medical institutions to actively educate nurse assistants trainees. Second, it is important to secure a dedicated teacher to regularly visit the medical institutions, and develop educational programs regularly with the head of nursing department. In the case of small-scale education & training institutions, the head of an institution is in charge of full-time teachers and administrative affairs at a time. Under this conditions, the institution hardly manages trainees. In this case, the Korean Nursing Academy Association can also invest in the development of educational programs for field training in hospitals and share effective practical guidance manuals with members of the association. Third, the head of an education & training institution should support continuing education for teachers. It is necessary to develop a teaching and learning tool that makes move educational environment to online by adapting various edutech technologies suitable for the capacity of the institutions. The Korea National University of Technology and Education's Competency Development Education Center provides free education to teachers and instructors in all vocational institutions, so the institution's efforts are needed for teachers to actively participate in continuing education.

In this study, the suggestions for field training of nursing assistants are as follows. Field practice education should be provided to educate nurse assistants workforce demanded by hospitals. The National Competency Standards (NCS) has not developed a nursing assistant job, and the Ministry of Health and Welfare, which is in charge of education & training institution, has no educational guidelines for field practice. As it accounts for 51% of the total educational timeline, regular practical training should be able to be implemented during field training at medical institutions.

Field Education Model needs support of the heads of the nurse department and also understanding of edutech to work the model efficiently in hospitals. There should replace a nurse to educate trainees by edutech in hospitals, but there are lack of workforces in hospitals so that it is not easy to designate a nurse for field education. Although they support this field model, it takes time to train the designated nurses to manage the edutech for field education.

Moreover, the issue about no allocating any nursing staff to educate trainees in hospitals due to lack of nursing workforce can be solved by this field education model using edutech. The education & training institution provides pre-class focusing on the contents that the medical institutions emphasize on, and it can help trainees to adapt hospital environment. Video materials provided by education & training institutions are loaded on their own LMS. The nursing staff training nurse assistant trainees can use the contents shared by the education & training institution when guiding field practice. Edutech, which can be easily used by teachers and nursing departments at practical education institutions, should be used to present a field practice education model that satisfies both instructors and learners.

In order to verify the effectiveness of this model in future studies, when trainees preparing for field practice are approached in the existing way and when they are practiced with a new model, satisfaction with field practice will be compared and improvement studies will be conducted. In the Post-Class stage, the checklist should be presented to estimate for trainees' field education by themselves.

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