

Learning Patient Transfer Skill by Using a Robot Patient To Simulate Various Patients

Nowadays experienced nurses play a vital role at hospitals to take care of seniors and patients. However, many statistics reveal that the learning at schools are inadequate, because the students have few accessibilities to obtain the practical experience from actual patients. As the progression of technology, many researches proposed simulators for education propose. But most of the proposed simulator only can reproduce single type of patient which cause inefficiency to learn variability of patient. Moreover, the learning effectiveness has not been measured from the trainees. Therefore, this study aims to develop a robot patient simulating two types of patient for the nursing student to learn patient transfer skill, and also evaluate the learning effectiveness.

Patient transfer is determined as a goal to be improved in this study because of its difficult interaction between nurse and patient, and also the importance to maintain patient's daily life. Two types of patient: injured arm with painful sensation and expression, and hemiplegia were decided to be target patient based on the discussion of nursing teachers. One is related to the painful sensation from the injuries; and the other is related to the behavioral problems. A robot was developed with trunk and four limbs was employed to observe the learning effectiveness on the nursing students. An evaluation method of checklist is proposed by nursing teachers. All the checkpoints are referred to the nursing materials and nursing teacher's clinical experience. An experiment comprised by pre-test, practice, and post-test was conducted by nursing students (n=4). In the pre- and post- test, the students were tested by both types of patient. And during the practice, they were asked to practice three trails of injured arm patient, and also three trails of hemiplegia. The experimental trails at pre- and post- tests were recorded as videos, which were reviewed and evaluated by experienced nursing teacher based on the checklist.

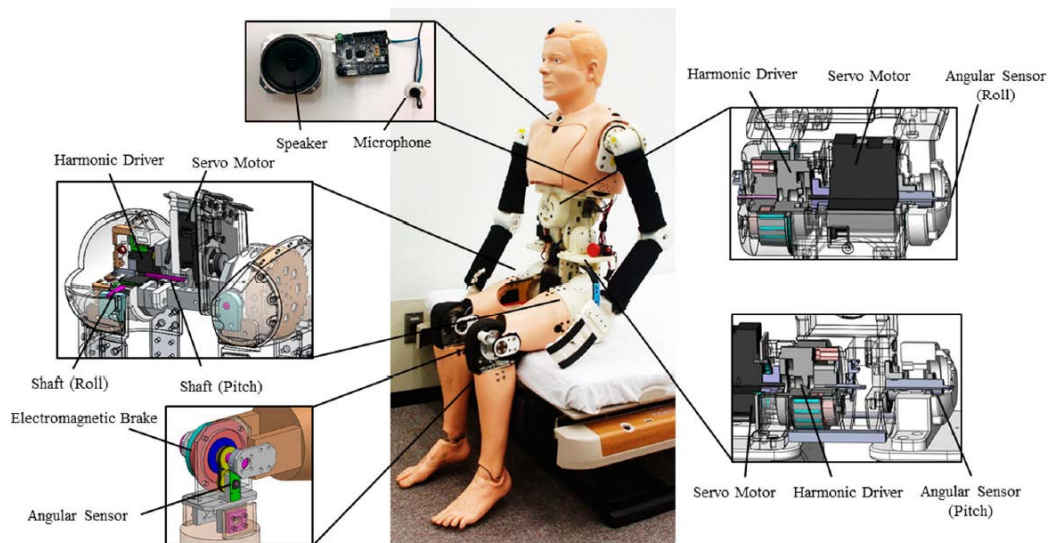


Figure 1. Configuration and mechanical design of robot patient.

Keywords: robot patient, nursing education, mechanical design

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