

Model of Practical Skill Performance as a tool for learning and supervision

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Practical skills in nursing

This article focuses on the practical skills that nurses perform with patients. Examples of such skills are inserting a urinary catheter, assisted personal body care, wound care or ambulation. In a historical perspective it has been very important for nurses to master practical skills (Johnson, 1994) and it is still considered a significant criterion in performance of nursing care (Reilly and Oermann, 1992; Bradshaw 1998). Performance of practical skills in nursing can be complex. The nurse must master motor aspects of the skill and at the same time communicate with the patient, draw on theoretical and practical knowledge and make ethical decisions (Bjørk, 1999). Nursing students use several avenues when learning how to perform practical skills. Before performance and learning in clinical settings the students can read about skills in books, clinical guidelines and procedural literature etc. Most skills are demonstrated by teachers in the skills centre, followed by the opportunity to practice on fellow students or mannequins in the skills centre. The most important arena for learning is probably the authentic clinical setting with real patients, where nursing students' may learn through observation and imitation of nurses (Bandura 1886) and practice with supervision by nurses.

Nursing students must learn many practical skills and reach a high level of competence in many of them. To reach this goal there is a need to use a systematic and analytic way of learning in all instances of practical skill acquisition. Bjørk (1999) has researched clinical skills and looked for common traits that are part of all practical skill performances. As a consequence the normative Model of Practical Skill Performance was developed (Figure 1), which offers a systematic understanding of practical skill performance (Bjørk and Kirkevold, 2000). The model has been further developed by constructing an instrumental supplement (Figure 2) with quality criteria described for all categories of the model. The model can be used as a learning tool when nursing students learn practical skills. It can be used in teaching, supervision, reflection and formative assessment. It can be used in interaction between student, teacher and clinical supervisor. It can be used by students on their own and in collaboration with fellow students (Bjørk et al. 2013).

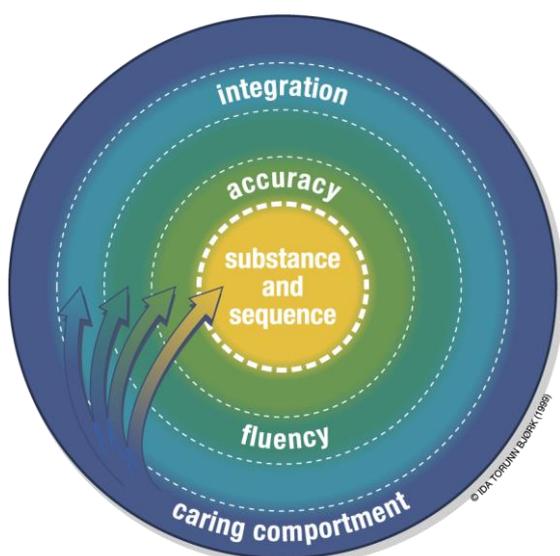


Figure 1 Model of Practical Skill Performance

To advance the understanding of the model we will in the following describe the categories of the model and give an example of how the categories may be used in a concrete clinical situation. Finally we will give examples of how the model may be used as a tool in learning and supervision.

Model of Practical Skill Performance

The model encompasses six categories which in total comprise what is central in all practical nursing skills. The categories are: substance, sequence, accuracy, fluency, integration and caring comportment. These categories are always present in a practical skill performance. The quality in an action relates to how these categories are adapted to the patient and the situation. In the figure below this holistic view of a practical skill is illustrated with stippled lines between the categories. The arrows in the model indicate that caring comportment is fundamental in nursing and influences all other categories. In the instrumental supplement (Figure 2) the categories are defined and criteria of quality are described for every category.

Instrumental supplement to
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Definition of categories in the model	Characteristics of quality performance
SUBSTANCE AND SEQUENCE are the core aspects of a practical skill. It implies that necessary steps in the skill are included and performed in a logical order.	Substance and sequence are determined on the basis of content in clinical guidelines, professional standards and principles. Substance and sequence are adapted to the patient and the situation where the skill is being performed
ACCURACY refers to exactness of each movement step, instruction and information. Accuracy is important in order to ensure security of patient, nurse and environment	Accuracy implies to act: <ul style="list-style-type: none"> * correctly * precisely Accuracy implies to inform and instruct: <ul style="list-style-type: none"> * what is necessary and sufficient * distinctly * understandably
FLUENCY signifies that tempo and rhythm is adjusted to both the patient and the type of practical skill being performed, and that the practical skill is performed with smoothness	Fluency implies to act, inform and instruct: <ul style="list-style-type: none"> * without hesitation * without unnecessary breaks * with ease
INTEGRATION signifies that all parallel aspects within the practical skill are harmonized Integration also means that the practical skill, as a whole, is adjusted to the patient's current condition and situation	Integration implies to: <ul style="list-style-type: none"> * time and coordinate the elements of action Integration related to adjustment implies to: <ul style="list-style-type: none"> * be attentive * have an overview * be flexible
CARING COMPORTMENT signifies to create an atmosphere where the patient's dignity is upheld, self-determination is ensured according to the patient's current condition and situation, and well-being is warranted	Caring comportment implies to: <ul style="list-style-type: none"> * acknowledge * show respect * ensure patient participation * be empathic * use appropriate touch * be engaged * use appropriate communication * work aesthetically

Figure 2 Instrumental supplement to the Model of Practical Skill Performance

Example of how to use the model

The example chosen to illustrate the categories of the model concerns a woman of 55 years with ischemic heart disease. She is a patient in a cardiologic surgical ward where she has had coronary bypass surgery two days ago. The patient smokes and has chronic obstructive lung disease. Postoperatively the patient has

developed pneumonia with breathing problems, coughing and expectoration. The patient receives oxygen and antibiotics. Treatment with antibiotics has made the patient nauseated; she has thrown up and has become a bit dehydrated. She therefore has an i.v. with a saline infusion. Due to cough, nausea and throwing up the patient has some difficulties in ambulating. In addition she has pain from the surgical wound and her sternum. During the operation the sternum was opened and after the operation sown together with thin wire. The sternum is not quite stable yet and must be spared and supported during ambulation and coughing.

The practical action used to illustrate the categories of the model is to help the patient ambulate from the bed to a chair where she will have her breakfast.

Substance and sequence

Substance and sequence concerns the steps of ambulation, the correct sequence of these steps and what aids that are necessary during the action. To perform the action the student must know the professional standards in ambulation of a patient after a coronary bypass operation. The standards may be found in local, national or international guidelines. In this specific case there will only be a few aids, but an i.v. stand and shoes or socks with anti-slip soles may be relevant. The guidelines prescribe that to move from prone to sitting position the patient should turn over on the side and use her elbow and the opposite arm to push up from the bed while the gravity of her legs that are swung over the edge of the bed helps her into a sitting position. Guidelines for coronary bypass state that to spare the sternum during movements the patient should support her chest with a special grip during movement and coughing. The patient must not use her hands to shove her body when getting up but put both hands on her knees and lean forward.

Accuracy

Accuracy entails that the action should be performed with precision in all aspects. This could for example mean that the patient must lie completely on her side before she starts to push up, or that the patient should be able to get her breath in order to stabilise her respiration and counter dizziness before she stands out of bed. It may mean that the i.v. bag is placed on the i.v. stand before the patient moves out of bed to hinder strain on the i.v. tube, or that the bed is elevated to accommodate the student's position during work, or that anti-slip footwear is properly put on. Another aspect of accuracy is that the patient should understand what is going to happen and what her role is to be. The patient should be informed in an unambiguous way when and how she should move during ambulation. Students must ensure that movements are made correctly. The student can use both verbal and non-verbal communication by e.g. demonstrating grips and movements.

Fluency

Fluency concerns if the ambulation is performed in an appropriate tempo and with a natural rhythm without unnecessary interruption. This means that the student needs a holistic overview of the action and that equipment must be ready, such as anti-slip footwear, bathrobe and i.v. stand. The physical environment must be cleared to give room to move about. Finally the student must know the substantial steps and their sequence in order to hinder interruption because of a lack of knowledge about the next step. Lacking fluency may be caused by slowness in and between each step causing the patient to become cold or tired. Also the ambulation can be performed too quickly so the patient feels forced because each step comes too fast. This may also influence accuracy, e.g. that the patient does not have enough time to move over to the side before she tries to sit up.

Integration

Integration focuses on coordination between sub-actions as well as integrating the ambulation with other aspects of the patient's situation. The former may involve how the student physically helps the patient to swing her legs out of bed at the same time as the student instructs the patient to push up from the bed. The

latter presupposes that the student knows the patient and has theoretical knowledge about general reactions and problems in this group of patients. In relation to ambulation it can be relevant that the student checks that pain medication has had effect or that the patient knows how to support her chest during movements. If the patient feels nauseous or breathless during ambulation the student shows ability to integrate by letting the patient sit as long as necessary on the bed before starting to walk. Integration also entails letting patients use their resources in the right way. In our example this might mean that the patient can manage the ambulation mostly herself with verbal instruction by the student. A patient that is feebler either physically or mentally might need more guiding or physical help during ambulation.

Caring comporment

This category focuses on respect, atmosphere, ethics and aesthetics during the skill performance. During the ambulation this might be how the student is attuned to the patient's verbal and non-verbal reactions and utterances and how the student responds in a respectful and acknowledging way both in action and speech. Caring can also be shown through encouraging comments about the ambulation and the patient's role. Caring can also be to arrange the patient's hair and to help the patient to dress in a way that is acceptable to her.

The model as a learning tool

The example illustrates how the model can be used to reveal the complexity in an apparently simple practical skill such as ambulation. Our goal is not to make the skill more difficult but to clarify the part-skills one can work with in order to master the skill in a holistic way. The model may provide an overview and a structure in learning because it makes it possible to let some categories into the foreground while others are in the background during supervision and learning. If a student is learning a new skill it can be difficult to anticipate all the categories in the beginning. Usually the student will focus on substance, sequence and accuracy and try to perform the skill in accordance with guidelines on the ward. It is quite common that neophytes lack fluency because they often fail to anticipate the next step and lack routine in performing required steps of the skill. It is only when substance, sequence and accuracy is learned that it is possible to act fluently. Integration is often a difficult category to master because the student needs to integrate single aspects of the skill as well as integrate the skill into the patient's total situation. To uphold integration the student has to have knowledge about a patient's general health and medical condition, age related concerns, potential and actual problems, and how the skill being performed is part of the overall nursing and medical care of the patient. It makes a great difference if the patient who is being ambulated is newly operated on, is an elderly confused patient, a patient with paralysis after stroke or a child. It matters if the patient has experienced ambulation before or if it has to be done although the time to be used is tight. Integration also means to be alert to anything that can influence the action. In the example given above pain and breathing difficulties are such influences because they can hinder the patient in movement and use of own resources.

Practical use of the model

The model contributes to a common language when discussing practical skills. It can also help participants in supervision to get an overview of the skill in question. The quality of a practical skill can be made explicit by using the model's categories to analyse both part-skills and the whole skill. The model can be used in reflection before, during and after skill performance (Schøn, 1983, 1987). Reflection before the skill performance may be used to point out the categories that are in the foreground during the supervision session. If the choice is integration the student and supervisor can discuss what that entails. By focusing on various categories the students can build the model's different layers into their actions and progression is supported in the learning of practical skills in nursing.

While the student is performing the skill itself the supervisor can make the student aware of different categories at the appropriate time while performing, e.g. accuracy can be pointed out in relation to securing

the bed at the right height or integration can be mentioned if the patient has symptoms that demand an accommodation of the steps in the skill, such as symptoms of breathing difficulties, pain or nausea. The supervisor can demonstrate one of the categories, e.g. by taking responsibility for the category caring compartment. The student will thereby have the opportunity to concentrate on the categories defined for the learning situation. Due attention must of course be given to the patient during supervision.

In reflection after the skill has been performed student and supervisor can assess the skill performance according to the pre-chosen categories. In this reflection the model gives a structure for the student's self-evaluation as well as the supervisor's feed-back. Theoretical arguments can be used with each category. Why use this ambulation technique? Why this sequence? What hygienic problems are relevant? How is it possible to prevent the spread of bacteria? What patient needs can be influenced by the ambulation? How can the patient's resources be assessed to find out how much she can participate during the ambulation? Are there any ethical aspects involved in the situation? What aesthetical aspects could be reflected on? And so on. Use of the model can stimulate the student to use theoretical knowledge through reflection and justification of own actions during skill performance.

The model can be used during clinical supervision, in the skills centre and in skills teaching. Video-sequences of practical skills can be analysed with the categories of the model. Such analysis may be used as an introduction to the model and its use, to inform the understanding of each category and to discern their differences. Analysis of video-sequences can also be used to sharpen students' attention on the quality of practical skill performance. A video-sequence of the example used in this article can be found on www.rins.dk (in Danish).

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