

Module 02: Theory-practice Transfer and instructing Learners in Nursing Care

Lesson 02: Instruction Methods, Diary and Skills Lab

GIZ sub-project:

MANILA - Modern Approach to Nursing Instructional Learning Advancement

Development and implementation of a blended learning qualification for instructors for nursing practice in the Philippines

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1. Learning Objectives:

At the end of the lesson

- you will recognise the structured learning process of the four-step method and understand its application in nursing training.
- you will develop an understanding of the importance of reflection and dialogue in the "Modelling in Metalog" model.
- you recognise the relevance of the Cognitive Apprenticeship Model for the combination of practical skills and cognitive processes in nursing practice.
- you understand the differences and similarities between the four-step method, Cognitive Apprenticeship and modelling in Metalog.
- you will reflect on your experiences in practical instruction and identify potential for optimisation through the targeted application of the models described.
- you will develop the ability to systematically teach nursing activities and effectively support learners.
- you recognise the importance of the role model function in nursing care and implement ethical principles in your instruction practice.
- you will expand your knowledge of various instruction methods and their practical application in everyday care.

2. The Methods of Guided Instruction

2.1. The Four-Step Method

The four-step method is a proven didactic concept for instructing and training trainees in practical skills that is frequently used in nursing. This method structures the learning process into four successive steps in order to organise the teaching and learning of practical skills systematically and effectively.

The four stages of the method

1. preparation (planning and preparation)

Aim: To prepare the learner for the task ahead.

Contents:

- Selection of the activity to be learnt.
- Explanation of the purpose and importance of the activity.
- Ensure that all necessary materials and tools are ready.
- Creation of a suitable learning environment.

In nursing: The trainer explains to the learner which nursing activity (e.g. blood pressure measurement) is to be learnt, why it is important, and ensures that all materials (blood pressure monitor, stethoscope, etc.) are available.

2. demonstration

Objective: The task is demonstrated completely and correctly.

Contents:

- The trainer demonstrates the activity while the learner watches.
- Explanation of the individual steps during the demonstration.
- Emphasising critical points and possible sources of error.

In care: The instructor demonstrates the correct way to measure blood pressure, explaining each step (e.g. positioning the stethoscope, inflating the cuff) and pointing out important details.

3. imitation (copying and practising)

Objective: The learner carries out the activity under supervision.

Contents:

- The learner repeats the activity under the supervision of the trainer.
- The trainer gives constructive feedback and corrects mistakes.
- Repeat several times to develop confidence and routine.

In nursing: The trainee performs the blood pressure measurement themselves, while the trainer monitors and corrects if necessary until the trainee has mastered the activity.

4. independent practice (independent execution)

Objective: The learner carries out the activity independently and assumes responsibility.

Contents:

- The learner carries out the activity independently and without direct instruction.
- The trainer is available for questions and support if required.
- The learner reflects on their performance and identifies potential for improvement.

In nursing: The learner now carries out the blood pressure measurement independently, while the trainer only intervenes if necessary. The learner then reflects on their procedure and discusses it with the instructor.

Advantages of the four-step method in care

- 1. structured learning process:** The method offers a clearly structured process that systematically supports the learning of practical skills.

2. **individualised learning:** the learning process can be adapted to the learning pace and needs of the trainee.
3. **security and confidence:** Through gradual practice and repeated application, learners gain security and confidence in their abilities.
4. **quality assurance:** the method ensures that nursing activities are learnt and carried out correctly and in a standardised manner.

Application of the four-step method in nursing training

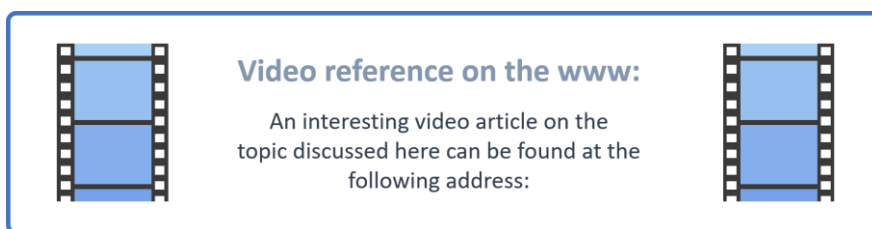
The four-step method is often used in nursing training to ensure that trainees learn practical skills effectively. This is particularly important in a profession where precision and accuracy are essential to ensure the safety and well-being of patients.

Examples of activities that can be taught using the four-step method:

- Measure blood pressure
- Administering injections
- Carry out wound care
- Insert catheter
- Mobilisation of patients

By applying the four-step method, nursing trainees are enabled not only to understand practical activities in theory, but also to carry them out safely and competently in practice.

The four-step method is suitable for achieving psychomotor learning objectives for simple activities by learning from a model. Cognitive learning objectives are not achieved at all because the relationships and backgrounds of activities cannot be sufficiently explained.



"Rodney Peyton's 4 Stage Method Explanation" by Rodney Peyton (24.01.2018, 4:00 min.)

https://www.youtube.com/watch?v=gVbFg1E_qLs

2.2 The V-E-N-Ü-K Model

The four stages can also be labelled as follows, which is why this method is also known as V-E-N-Ü-K:

- Demonstrate
- Explain
- Imitate
- Practise
- Control

V-E-N-Ü-K considers the points "Demonstrate" and "Explain" from the "Demonstrate and explain" stage of the four-step method separately. This emphasises that the activity is demonstrated at a normal pace when it is first performed. Only in the second step - during the explanation - is the activity performed slowly step by step and all the details are explained.

2.3. Four-Step Approach

In other countries, the stages are labelled differently or the sequence is changed, which has led to the development of the "**four-step approach**", for example.

In this method, the four stages are categorised slightly differently to the "**four-stage method**", namely demonstration, deconstruction (explanation), promoting understanding and implementation.

1. Demonstration

The practical guide demonstrates the action to be learnt once at normal speed.

2. Deconstruction

The practical guide slowly performs the individual steps and activities of the action and explains them as well as the necessary background information.

3. Promoting understanding (Comprehension)

Variant 1: The learners carry out the action and the practical guide explains the individual steps and activities. Alternatively, there is a second variant:

Variant 2: The practical guide carries out the action and the learners explain the individual activities while they see the correct execution a third time.

4. Realisation (performance)

The learners carry out and practise the action under the supervision of the practice supervisor.

2.4. Modelling in Metalog

The "modelling in metalog" model is a comprehensive method of practical guidance that has proved particularly successful in nursing training. It goes beyond the simple demonstration of activities and emphasises the importance of role model behaviour and reflective dialogue between teacher and learner. This model emphasises the transfer of knowledge, skills and professional values through conscious, transparent guidance.

Main components of the "Modelling in Metalog" model:

1. Modelling:

"Modelling" involves the demonstration of skills and behaviour by the practical instructor. It is not just about demonstrating a specific technique or procedure, but also about teaching thought processes and decision-making strategies.

The practical instructor demonstrates a task and makes their considerations transparent. This could include, for example, why a particular action is necessary in a specific care situation, what risks need to be considered and what ethical considerations should be taken into account.

2. Reflective dialogue (metalog):

The term "metalog" describes a dialogue-based process in which the practical instructor reflects on and discusses their decisions and actions together with the learner. This promotes the learner's understanding of the underlying principles and helps them to develop their own thought and action processes.

Through reflective dialogue, learners are encouraged to ask questions, make their own considerations and critically question their decisions. This strengthens their ability to make informed decisions in complex and unpredictable care situations.

3. Role modelling:

The practice supervisor not only serves as a technical role model, but also as an ethical and professional role model. Through their behaviour, they show how to behave appropriately in various professional situations, how to interact with patients and relatives and how to make difficult decisions.

The role model function is particularly important in care, as it involves dealing with people in often very vulnerable situations. The instructor shows by example how compassion, respect and professionalism are implemented in care.

4. Integration of ethical and social aspects:

In addition to the technical and cognitive aspects, "Modelling in Metalog" places particular emphasis on the ethical and social dimensions of nursing care. The instructor consciously addresses topics such as patient rights, data protection, interprofessional collaboration and the emotional strain of the nursing profession.

This integration ensures that learners not only acquire the practical skills, but also a deep understanding of the ethical obligations and social responsibilities that go hand in hand with the nursing profession.

Application in nursing practice:

In nursing practice, the "modelling in metalog" model is used to prepare learners for the complex demands of the profession. It helps them not only to learn the necessary practical skills, but also to develop the ways of thinking and behaviour that are necessary for professional and ethical care.

Through conscious reflection and dialogue within the framework of this model, learners are enabled to critically question their own decisions and develop a professional identity. This method promotes the autonomy of learners and prepares them to act independently, reflectively and ethically responsibly in their later professional life.

Overall, "modelling in the metalog" offers a holistic approach to practical guidance that promotes both the technical competence and the personal and professional development of learners.

2.5. Cognitive Apprenticeship

The Cognitive Apprenticeship model was developed to promote learning in real, practical contexts and at the same time make cognitive processes visible and comprehensible. It is based on the principles of traditional apprenticeship, in which an apprentice learns by imitation and guidance from an experienced master. This model is often used in nursing practice to effectively familiarise new nursing staff or trainees and gradually introduce them to the complex requirements of the profession.

Main features of the Cognitive Apprenticeship model:

1. Modelling:

The practical instructor shows learners how to perform certain care tasks correctly by demonstrating them in real-life situations. In doing so, they make their own thought processes and decision-making paths explicit in order to give learners an insight into the "thinking" behind the actions. The learners listen actively.

2. Instruction (coaching):

The supervisor actively supports the learner in carrying out tasks, provides feedback and offers corrections if necessary. Learners carry out the activity using their prior knowledge and are supported by the practical guide. This phase is particularly interactive and enables the learner to gain practical experience under supervision.

3. Scaffolding and Fading:

Also known as "scaffolding", this involves a gradual reduction in support from the practical instructor as the learner becomes increasingly independent. The instructor adapts their support to the learner's current level of learning and gradually withdraws (fading) in order to give the learner more personal responsibility.

4. Articulation (Articulation):

In this phase, learners are encouraged to reflect on and verbalise their own thoughts, decisions and actions. This promotes awareness of their own learning process and helps to consolidate the acquired knowledge. Learners can name alternative solutions and variants. The practical guide comments on and evaluates this.

5. Reflection:

The learner is instructed to compare their own actions with those of the practice supervisor or other experienced carers. The learner reflects on the solution. Learners are able to consider alternative suggestions and criticism. They are aware of the consequences of their actions and formulate them. This helps them to recognise strengths and weaknesses in their own behaviour and to continuously improve it.

The practical guide provides information and materials for the reflection process. The practical guidance shows support options such as learning opportunities and gives advice on how to further optimise the activity. The practical guide supports learners so that they can structure the process of reflection. The practical guide supports the reflection process by structuring it.

6. Exploration (Exploration):

The learner is encouraged to look for solutions independently, take on new tasks and develop creative approaches. In this phase, they become increasingly confident in their professional environment and are able to apply their knowledge to new situations. Learners expand their own repertoire of actions and take responsibility for their own learning. The practical guide sets objectives for further independent learning and supports the learner in this process.

Significance for nursing practice:

In nursing, the cognitive apprenticeship model is particularly useful because it seamlessly combines cognitive and practical training. Nurses must not only master technical skills, but also be able to make complex decisions and react to unforeseen situations. The model allows these skills to be learnt and applied in a real-life context, better preparing learners for the challenges of their profession. With Cognitive Apprenticeship, learners can be made aware of problem-solving strategies and strengthened in their use, with reflection by the learner and feedback from the practice supervisor taking place in the follow-up discussion. Observations are shared and the next learning objectives are agreed.

The targeted application of this model ensures that new nurses not only learn the necessary practical skills, but also the critical thinking processes and ethical considerations that are essential for high-quality nursing care.

2.6. Comparison of the Models

The concepts of "cognitive apprenticeship", the four-step model and "modelling" in Metalog differ in their approach to practical guidance in nursing. They differ in their approach and objectives and offer different methods for training nursing staff, each with its own focus.

The Cognitive Apprenticeship model combines practical learning with the teaching of cognitive processes. It is based on the principles of traditional craftsmanship, where learners learn through observation and guidance. The focus is on visualising the thought processes behind practical activities and helping learners to understand and apply them. The aim is to promote independent thinking and action in real contexts, with learners gradually taking responsibility for their actions.

The four-step model is a more traditional method of practical guidance that focuses strongly on the step-by-step learning of practical skills. It is often used in vocational training to systematically teach specific activities. The aim is to teach specific practical skills through repeated practice until the learner can perform the task confidently and without error.

Modelling" in metalog refers to teaching by example, in which the teacher acts as a model and provides an example for the learners through their behaviour, thought processes and actions. The term "metalog" describes the dialogue about one's own learning and actions, whereby the teacher makes his or her thoughts and decisions transparent. The aim is to promote a holistic education in which learners adopt not only technical skills, but also the mindset and ethical principles of the nursing profession.

Summary of the differences:

Cognitive Apprenticeship focuses on the integration of cognitive processes and practical learning, with a particular emphasis on the gradual promotion of independence and reflection. It combines

theoretical knowledge with practical skills and enables learners to master complex tasks with guidance and step-by-step support.

The four-step method is more traditional and consists of the steps of preparation, demonstration, imitation and practice, without delving deeper into the cognitive aspects. The focus here is on teaching learners the individual work steps in a clear and structured way, with learners gradually taking on more and more responsibility.

Modelling in the metalog goes beyond mere demonstration and emphasises the importance of the role model and reflective dialogue in order to teach both technical skills and ethical and social aspects of the nursing profession. Modelling in the metalog extends cognitive apprenticeship by imparting action knowledge in a compact way and accompanying the instruction with a kind of "thinking aloud". This method is shorter in time and offers the advantage that complex situations are demonstrated and explained directly on the patient while the learners observe.

The main difference between the models lies in the structuring and depth of reflection. While the four-step method is highly structured and step-by-step, the Cognitive Apprenticeship offers a deeper integration of cognitive and practical elements. Metalog modelling, on the other hand, enables focused and efficient knowledge transfer, but is less extensive in terms of follow-up and reflection.

Instruction Situation	4-Steps- Methode or Traditional Apprenticeship	Cognitive Apprenticeship	Modeling im Metalog	Who is active? Trainee or Instructor?
Preparation	Preparation	Preliminary Discussion		
Implementation	Demonstrate and Explain	Modeling	Perform action with Metalog	
	Let it carried out	Scaffolding Fading Coaching		
Evaluation	Evaluation and Completion	Follow-up Discussion	Follow-up Discussion and Answer Questions	

Figure 1: Comparison of the 4-step method, cognitive apprenticeship and modelling in Metalog (self-created graphic by Jovan Didier)

3. Learning Diary

The learning diary is a didactic tool that is frequently used in nursing training to support and structure the learning process of trainees or new nursing staff. It serves as a personal reflection tool that encourages learners to systematically document and reflect on their own experiences, progress and challenges. By keeping a learning diary, learners can develop a deeper understanding of their professional development and what they have learnt.

Main functions of the learning diary:

1. Self-reflection:

The learning diary encourages self-reflection by allowing learners to think about their own actions, thoughts and emotions. For example, they can reflect on how they mastered certain care situations, what challenges they faced and how they overcame them.

Through regular reflection, learners develop a better understanding of their strengths and weaknesses, which helps them to set specific learning goals and further develop their professional skills.

2. Structuring the learning process:

The learning diary offers a structured way of documenting your own learning process. Learners can record which tasks they have completed on a particular day, what new knowledge they have acquired and what questions or uncertainties remain.

This structured documentation makes it easier for learners to keep track of their learning progress and focus on specific topics or skills that still need to be improved.

3. Promotion of personal responsibility:

Keeping a learning diary encourages learners to take responsibility for their own learning process. They take responsibility for what they learn and how they learn it by actively reflecting on their experiences and adapting their learning strategies.

This personal responsibility helps learners to become more independent and strengthen their ability to self-regulate, which is particularly important in nursing practice.

4. Communication and feedback:

The learning diary can also serve as a means of communication between the learners and the practical instructors or teachers. By viewing the learning diary, the practice instructors gain insights into the thoughts and challenges of the learners and can provide targeted feedback.

This feedback can help to identify learning difficulties and develop solutions together in order to further optimise the learning process.

5. Documentation of learning progress:

The learning diary also serves as proof of learning progress. It enables learners and trainers to track progress over time and assess whether the set learning objectives have been achieved.

This documentation is also useful for visualising continuous professional development and ensuring that learners are on the right track.

Application in nursing practice:

In nursing practice, the learning diary is used to motivate learners to reflect on and systematically analyse their daily experiences. Typical contents of a learning diary can include reflections on care situations, thoughts on ethical issues, the examination of theoretical knowledge and its application in practice as well as personal objectives for the further learning process.

Regularly keeping a learning diary supports the learning process in the long term by encouraging learners to continuously reflect on and develop their knowledge and skills. In addition, the learning diary helps learners to identify more strongly with their professional role and the requirements of the nursing profession and to develop a professional attitude.

Overall, the learning diary is a valuable tool in nursing training that both structures the learning process and promotes the personal and professional development of learners.

4. Skills Lab

4.1. The Historical Development of the Skills Lab

The historical background of the skills lab in practical guidance goes back to developments in medical and nursing training in the 20th century. Originally developed in medicine to improve the training of doctors, the concept was later adapted in nursing to support the practical training of nursing students.

The first beginnings of what later became known as the skills lab emerged in medical education in the mid-20th century. At this time, the need for medical students to practice clinical skills in a safe environment before practising on patients began to be recognised. This led to the establishment of so-called "clinical skills centres" where students could practice various medical procedures and techniques on models and simulations under the guidance of experienced doctors.

In the 1970s and 1980s, nursing education also began to adopt the skills lab concept. With the growing demand for nursing education to encompass both theoretical knowledge and practical skills, it became clear that learners needed more hands-on practice opportunities.

The introduction of skills labs in nursing was driven by the belief that nurses, like doctors, should have the opportunity to develop and perfect their skills in a controlled environment before entering clinical practice.

Over the course of the 1980s and 1990s, skills labs became increasingly established in nursing training programmes. They became an integral part of nursing programmes in many countries and were further developed through the integration of modern technologies such as simulations and computer-aided training programmes.

The use of simulations in skills labs significantly expanded the range of practice options. Learners could now gain realistic but risk-free experience of complex care situations, including emergency scenarios and interprofessional exercises.

With the spread of constructivist approaches to learning in education, which emphasise that learning is most effective through active participation and reflection, skills labs continued to grow in importance. These approaches to learning fitted well with the practical and experiential exercises offered in skills labs. Skills labs were increasingly seen as places where not only technical skills, but also critical thinking, decision-making and teamwork could be practised.

Today, skills labs are an integral part of nursing training worldwide. They are particularly important at a time when the demands on nursing staff are becoming increasingly complex and a high level of professional expertise and the ability to make quick decisions are required.

The continuous development of the skills labs, including the integration of new technologies such as virtual reality (VR) and augmented reality (AR), shows that these facilities will continue to play a central role in nursing training in the future.

The development of the skills lab as a pedagogical tool in nursing education reflects the increasing awareness of the need to provide nursing students with comprehensive and practical training. This historical development emphasises the importance of a safe learning environment in which complex and potentially risky nursing activities can be learned and practised without immediate danger to patients. The transition from theory to practice is thus made more seamless, which ultimately contributes to a higher quality of care and better preparation of nurses for everyday clinical practice.

4.2. The Skills Lab in Nursing Training

The skills lab is an innovative training model that is becoming increasingly important in nursing training. It is a specially equipped learning environment that simulates real care situations in order to offer learners a practical and safe opportunity to develop and deepen their nursing skills.



Figure 2: Skills Lab for Nursing (picture by Alina N. Medvedeva)

Main features of the Skills Lab:

1. Realistic simulation:

In the skills lab, care situations are simulated as realistically as possible. This can be done using models, simulators and sometimes even actors (standardised patients).

The environment is usually set up like a hospital or nursing room, allowing learners to practise in a familiar and realistic environment. This helps to ease the transition into actual practice.

2. Protected learning space:

The skills lab offers learners a safe and protected space in which they can try out their skills and make mistakes without this having any direct consequences for patients. This promotes learners' confidence in their abilities and enables them to learn from their mistakes.

The focus is on giving learners the opportunity to develop and consolidate practical skills and knowledge in a risk-free environment.

3. Wide range of exercise options:

In the skills lab, students can learn and practise a wide range of nursing skills, from basic activities such as personal hygiene and wound care to more complex tasks such as resuscitation or handling medical equipment.

Through repeated practice and the opportunity to break down complex processes into smaller steps and practise these systematically, learners can gradually improve their skills and prepare themselves for actual use in practice.

4. Feedback and reflection:

Immediate feedback is an essential part of the learning process in the skills lab. Practice instructors or teachers observe the learners during the practice sessions and provide constructive feedback to help them improve their techniques and correct mistakes.

In addition, reflection is encouraged as learners discuss their experiences and the challenges they have faced. This supports the in-depth processing of what has been learnt and the linking with theoretical knowledge.

5. Interactive and collaborative forms of learning:

The skills lab promotes learning in groups, which also allows teamwork and interprofessional collaboration to be practised. This is particularly important as nursing staff often work in multidisciplinary teams.

Group exercises and role plays allow learners to take on different roles and perspectives, which promotes an understanding of the complexity of care and the need for effective communication.

Particularly important for practical guidance in nursing:

The skills lab is of particular importance for practical training in nursing, as it builds a bridge between theoretical knowledge and practical application. Here are some key aspects:

1. Bridging the theory-practice gap:

One of the biggest problems in nursing training is the gap between theoretical knowledge and practical application. The Skills Lab helps to close this gap by enabling learners to apply theoretical concepts in a practical environment.

This makes it easier to understand complex care measures and promotes the development of skills that are crucial in real-life practice.

2. Increased confidence in action:

Through repeated practice and gaining experience in a protected environment, learners gain confidence. This is particularly important in nursing, where uncertainty and mistakes can have serious consequences.

In the skills lab, the practical instructors can specifically address the individual weaknesses of the learners and train them in a targeted manner, which further increases their confidence.

3. Promoting critical thinking and decision-making:

In the skills lab, learners are often confronted with unexpected situations or problems that they have to solve. This promotes critical thinking and decision-making, skills that are essential in nursing practice.

Practice instructors can use these situations to guide learners to question their decisions and discuss alternative approaches.

4. Individualised and differentiated learning:

The skills lab makes it possible to cater to the different learning needs of trainees. Learners who need more support can practise certain tasks more frequently, while advanced learners can work through more complex scenarios.

This flexibility in practical guidance helps to ensure that all learners receive optimal support and can progress at their own pace.

5. Preparation for practice:

The skills lab effectively prepares learners for the challenges of practice. By practising in a controlled environment, they are better prepared for the demands and stresses of real-life nursing care.

The practical instructors can also offer targeted preparation units in the skills lab for special situations, such as emergency situations or dealing with special patient groups.

Summary

The skills lab is an extremely valuable tool in nursing training. It provides a safe, realistic environment in which learners can develop, practise and perfect their practical skills. The Skills Lab provides considerable support for practical nursing instruction, as it offers an effective and structured way of teaching and consolidating nursing skills, preparing learners for the challenges of day-to-day nursing care and strengthening their professional confidence.