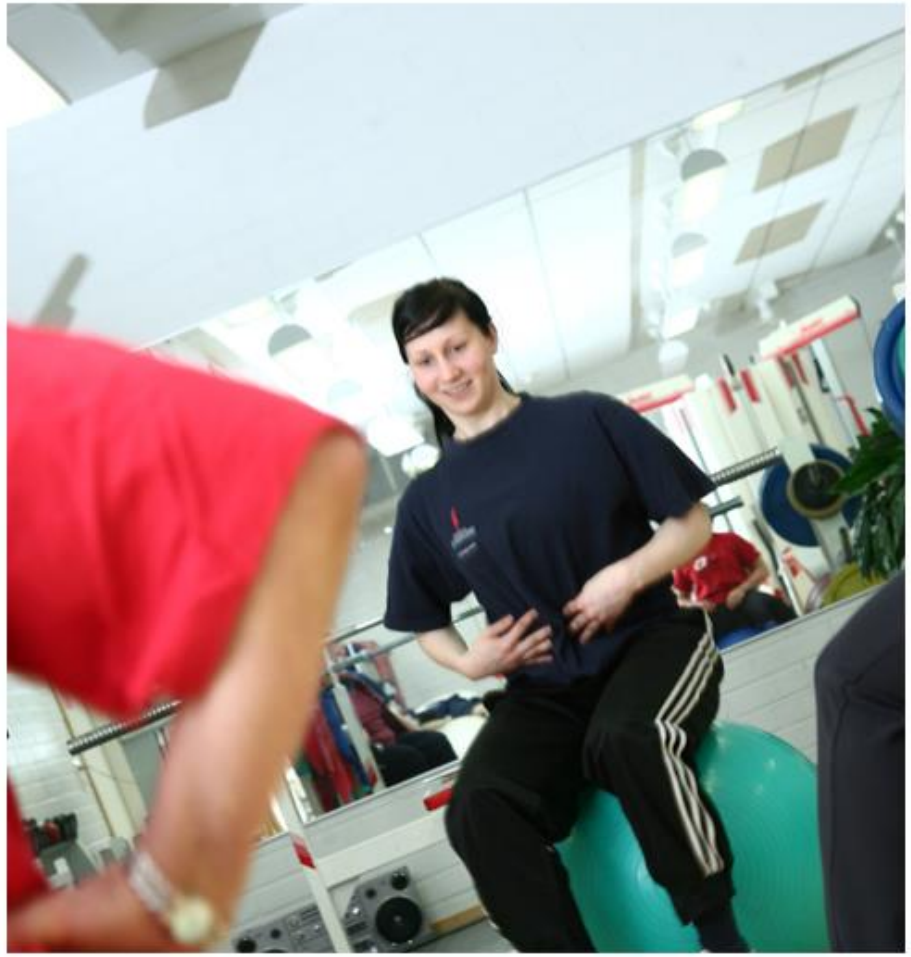
TRAINING MATERIALS FOR COMPETENCE BASED EDUCATION



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Bologna process

- Was a progressive union of the overall framework of degrees and cycles in an open European area for higher education;
- Created a common degree level system for undergraduates (Bachelor's degree) and graduates (Master's and doctoral degree);
- Enhanced and facilitated student and teacher mobility and improved recognition of degrees and academic qualification;
- Created of a European Credit Transfer and Accumulation System (ECTS); and
- Developed EU-wide quality assurance frameworks in higher education.

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NQF - EQF

- National qualifications frameworks (NQFs) classify qualifications by level, based on learning outcomes. This classification reflects the content and profile of qualifications - that is, what the holder of a certificate or diploma is expected to know, understand, and be able to do.

- The European Qualifications Framework (EQF) is a common European reference framework whose purpose is to make qualifications more readable and understandable across different countries and systems.

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EQF levels	Knowledge	Skills	Responsibility and autonomy
Level 4 The learning outcomes relevant to Level 4 are	Factual and theoretical knowledge in broad contexts within a field of work or study	A range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study	Exercise self-management within the guidelines of work or study contexts that are usually predictable, but are subject to change; supervise the routine work of others, taking some responsibility for the evaluation and improvement of work or study activities
Level 5 The learning outcomes relevant to Level 5 are	Comprehensive, specialised, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge	A comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems	Exercise management and supervision in contexts of work or study activities where there is unpredictable change; review and develop performance of self and others
Level 6 The learning outcomes relevant to Level 6 are	Advanced knowledge of a field of work or study, involving a critical understanding of theories and principles	Advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work or study	Manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts; take responsibility for managing professional development of individuals and groups

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ECTS

- ECTS is a credit system designed to make it easier for students to move between different countries
- ECTS helps to make learning more student-centered. It is a central tool in the Bologna Process, which aims to make national systems more compatible.
- ECTS also helps with the planning, delivery and evaluation of study programmes, and makes them more transparent.
- ECTS credits represent the workload and defined learning outcomes of a given course or programme.
- 60 credits are the equivalent of a full year of study or work.
- In Finland 1 ECTS is 27 hours of students work

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European Union Standards for Nursing and Midwifery

http://www.euro.who.int/__data/assets/pdf_file/0005/102200/E92852.pdf

Article 31 of 2005/36/EC lays out the principle requirements for the training of general nurses =>

Directive 2013/55/EU on the recognition of professional qualifications

=>2016

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Clinical practices in nursing education

- Professional practice is an essential part of the nursing education.
- 50% of the registration programme should be assigned to clinical learning, the ECTS values should be at least 90 ECTS credits (2430 hours) for clinical practice learning. (Directive EU 2013/55/EU, Reference Points for the Design and Delivery of Degree Programmes in Nursing. 2011.)
- A degree from a university of applied sciences must include practical training (A 15.5.2003/352, Section 4).
- The purpose of practical training at a university of applied sciences is to provide the student with orientation for working life duties and the practical application of their knowledge and skills.
- This orientation is provided under supervision. (A 15.5.2003/352, Section 7.)

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What does competence mean?

- quality or state of being
- a holistic term that refers to a person's overall capacity or ability to do something successfully
- competent person “not only possesses the requisite competencies but is also able to use them and make appropriate decisions and judgements according to the context”
- Professional competence is developmental, impermanent, and context-dependent

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What does competency mean?

- Competency represents the integration of knowledge, skills, values and attitudes
- Generic competencies are valid across different clinical contexts, whereas specific competencies are linked to specific areas of practice
- The essence of competency-based education is that it focuses on learner performance and learning outcomes in reaching specific objectives and curricular goals

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Definition for competence based education

Competency-based learning refers to systems of

- instruction,
- assessment,
- grading, and
- academic reporting

that are based on students demonstrating that they have learned the knowledge and skills they are expected to learn as they progress through their education.

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Teaching methods in CBE

- The teaching methods in CBE are student centered (Pijl-Zieber, Barton, Konkin, Awosoga & Caine 2014, Grawina 2017).
- They rely on constructivism (Poikela 1998) and experimental (Mc Leod 2013) philosophies.
- In these aspects the learning is student´s knowledge-construction in a cycle of experiment, reflection, conceptualization and action.
- Appropriate learning methods include for instance problem based learning, flipped classroom, clinical practice, simulations or dialogue training. (Lavoie, Michaud, Belisle, Boyer, Gosselin, Grondin, Larue, Lavoie. & Pepin 2018

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Teaching methods in CBE

- Learning includes student´s independent studying outside contact hours that can be for example preparing for the contact hours, writing/making/performing an assignment or reading to an exam.
- Standardized hours for independent studying, for example how many pages student reads in one hour, are of great assistance when measuring the independent workload of the student.
- In CBE it is on student´s own responsibility to perform, there is no need to monitor this. (Karjalainen, Alha & Jutila 2008.)

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Student assessment in CBE

- CBE utilizes criterion based assessment.
- This method focuses on having students “show what they know” and applying the concepts they’ve learned to evaluations that show they’ve truly grasped the subject. (Grawina 2017.)
- The assessment of the intended competences require multiple observations to determine if a nursing student is competent, and observations must include a variety of contexts and consider more than one perspective.
- A common assessment strategy in nursing education is objective structured clinical examinations (OSCEs). (Pijl-Zieber, Barton, Konkin, Awosoga & Caine 2014.)
- Other assessment methods are for instance reports, oral presentations, data analysis, diaries or portfolios.

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Challenges when starting CBE

- Lack of general competences, such as leadership, communication, teamwork, interpersonal skills, and professionalism.
- Thinking can be focused to more traditional aspects in nursing, like curative care rather than prevention or promotion.
- Making clear assessment criteria can be difficult. Therefore, the curriculum lacks clear plans or methods for assessment of the expected competences.
- Change of teaching methods. If the teaching and learning methods stay teacher centered, like lecturing with limited group work and module-based self-directed learning, the change is not likely to happen.
- Inappropriate clinical learning without clear learning outcomes and timing
- Lack of qualified staff in both educational institution and clinical practice will cause challenges.
- When shifting from traditional education to competence based, the attention should also be given to infrastructure. Library facilities should have appropriate materials, the skills laboratories should be equipped to satisfy the needs of the students. (Murarane za, Mtshali & Mukamana, 2017.)

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Competence development

- Both basic and professional competences develop throughout the whole nursing education
- Each teacher has the responsibility to see what competences are defined and attached to their spesific course
- Usually one course has 3-4 competences attached to it

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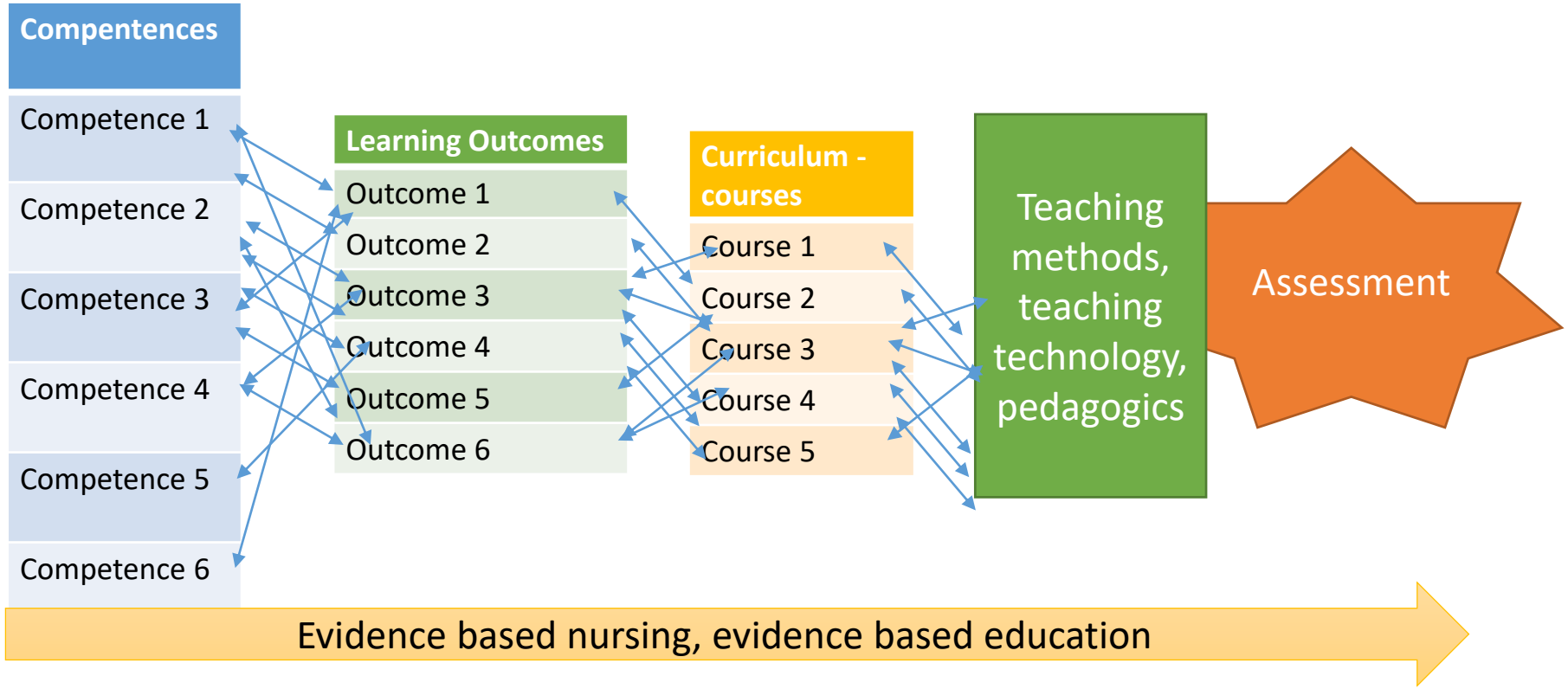
Curriculum design in competence based nursing education



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Why contemporary teaching methods?

- Major changes happening in the world, new technological tools and trends in international development in the field of education have made a fundamental change in contemporary teaching
- Contemporary learning prepares students with skills and capabilities to thrive in a rapidly changing and interconnected world
- Blended learning is an approach to learning that combines face-to-face and online learning experiences.
- Blended learning environment involves, for example, face-to-face and online lectures, simulations, work-shops, self-directed learning, online discussions and learning.
- Blended learning allows the teachers to combine teaching methods and philosophies and is helpful for teachers to deliver complex lessons

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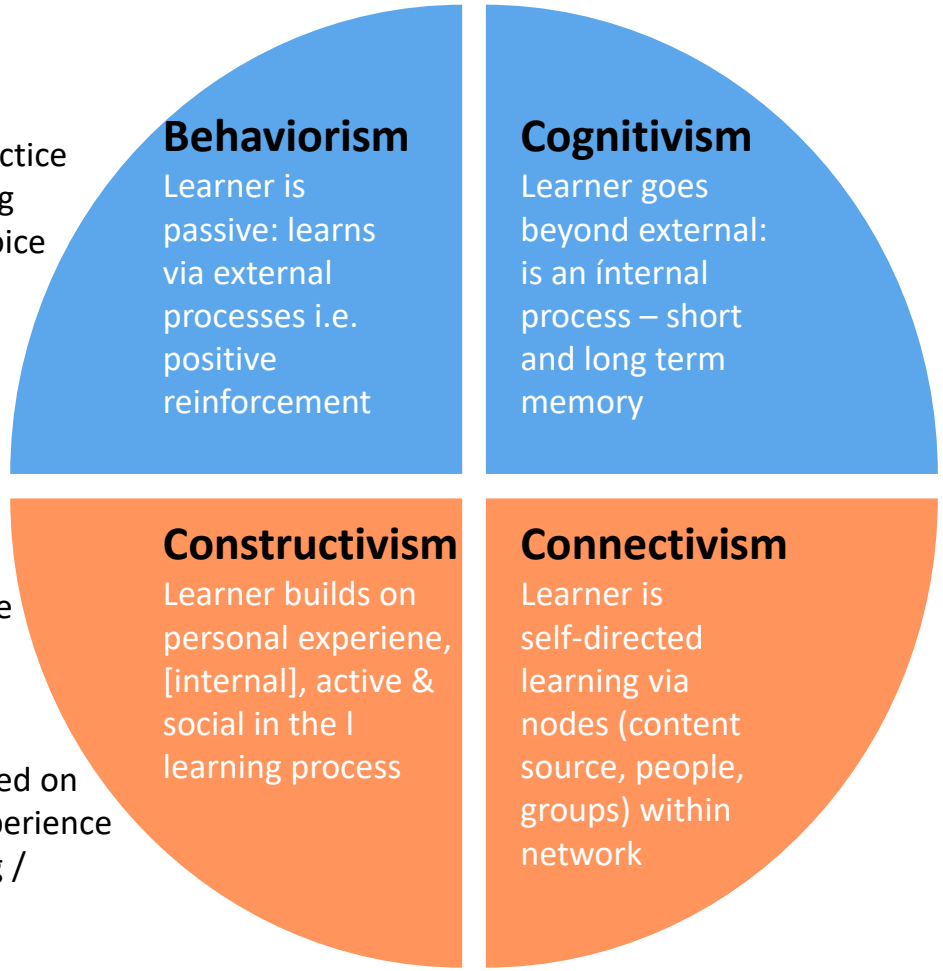
Methods:
- Lecture
- Drill and practice
- Rote learning
- Multiple choice tests



Methods:
- Lecture
- Visual tools: mind maps, charts, etc. to facilitate memorization for learning
- Multiple choice & essay assessment

Teacher focused

Methods:
- Discovery
- Collaborative group work
- Scaffolding
- Self-guided learning based on personal experience
- Peer grading / review

Methods:
- Self-directed quest for content
- Sharing of content, sources
- Spontaneous learning groups
- Creates knowledge collaboratively

Student focused

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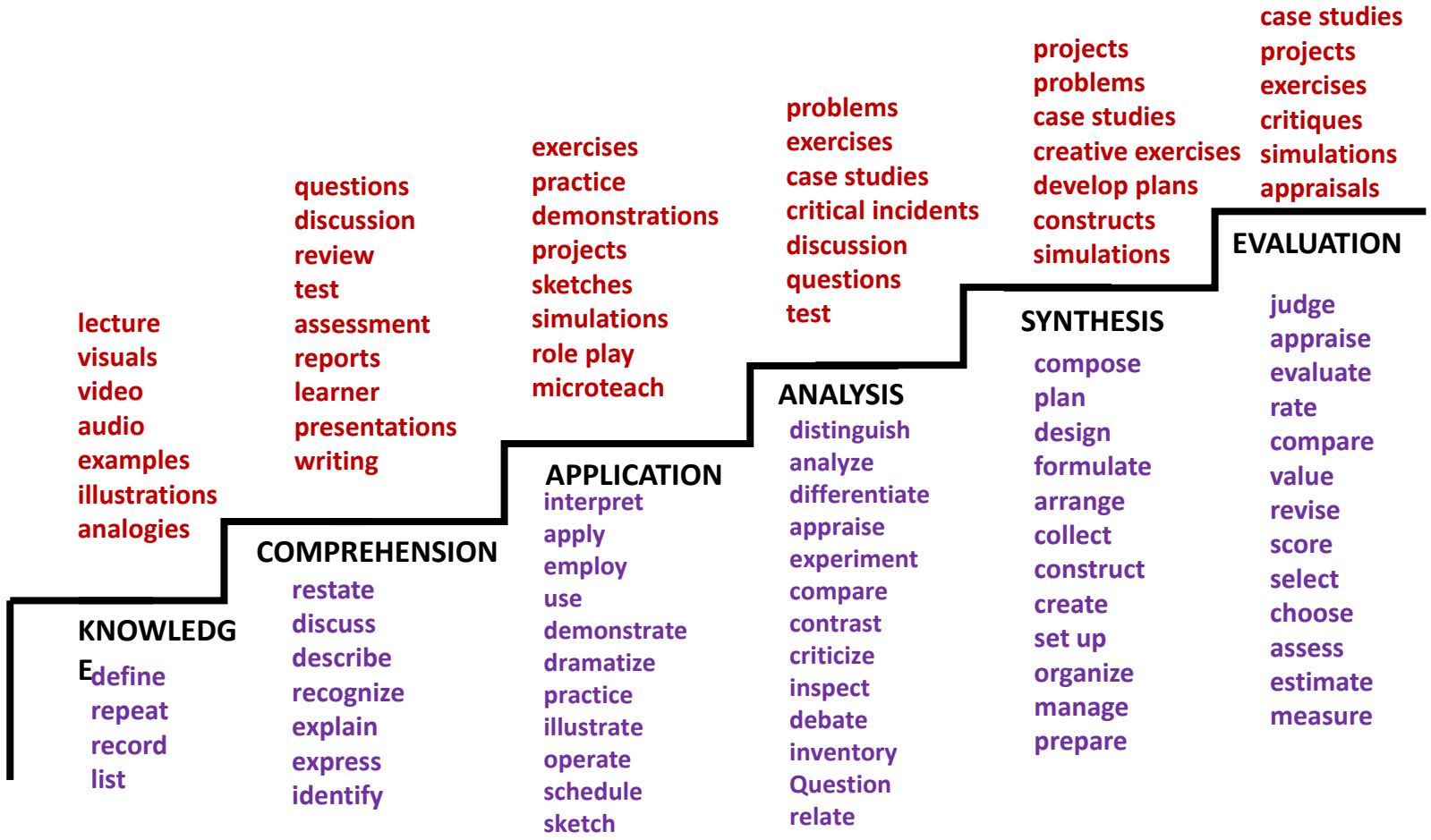
Suggested learning activities for use with each level of Bloom's Taxonomy



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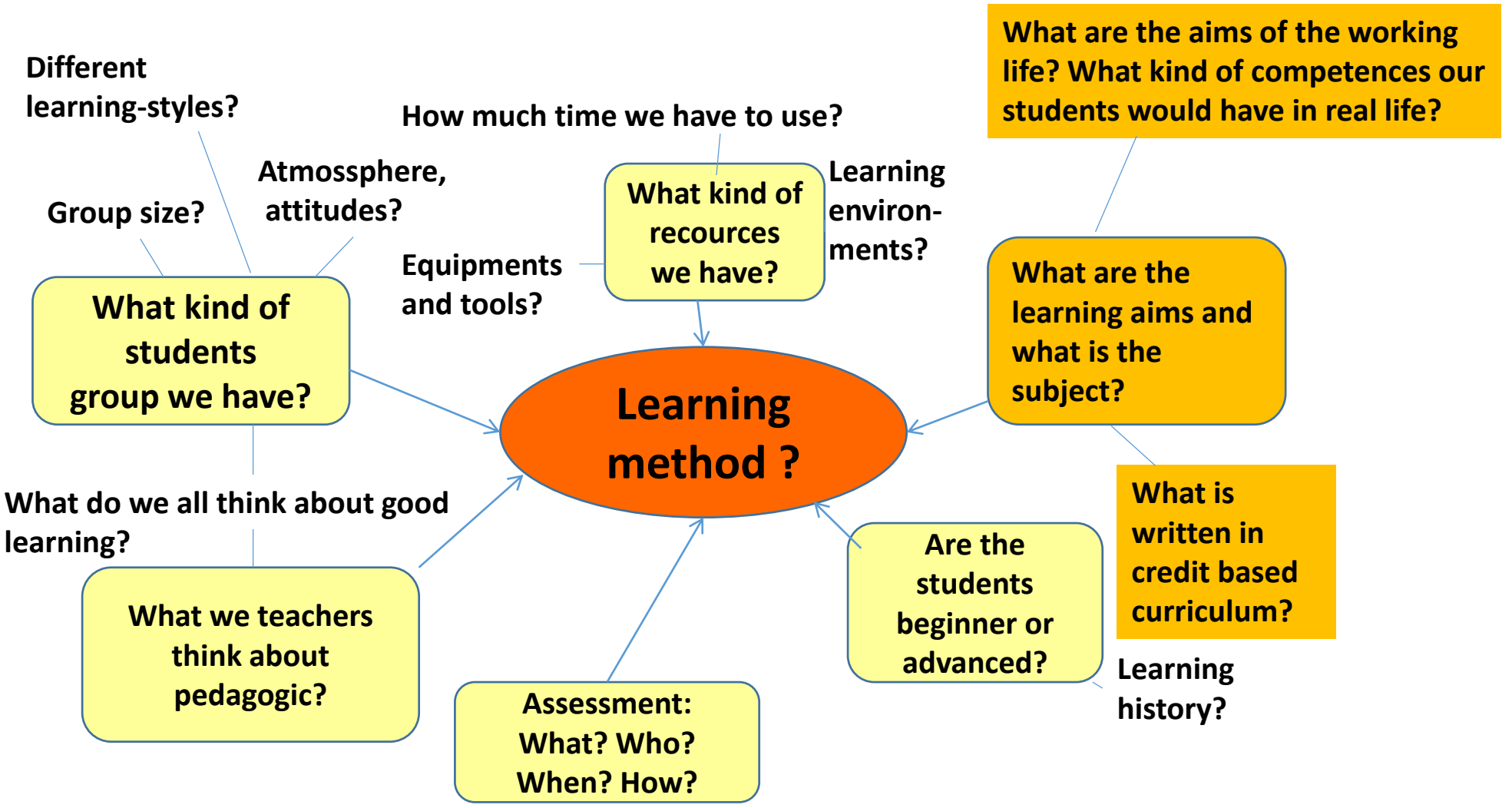
HOW DO WE CHOOSE LEARNING METHODS?



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Student workload – contact teaching and independent studying

Working method	contact hours	independent hours
Lecture	1	1-3
Passive demonstration	1	2
Activating lecture	1	2-4
Problem based learning	1	5

Working method	contents	hours
Assignment: written work	100 words/hour	includes both drafts and finished version
Artefact (design, drawing, software, object)	should be based on actual experience	
Live presentation	1 hour	3 hours
Authentic task	workload depends on whether the product is written work, artefact or presentation	
Reading easy text for assignment or exam	100 pages	20 hours
Difficult or foreign language text	100 pages	30 hours
Home essay, report, learning diary, or equivalent written assignment	8-12 pages	40 hours

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Independent workload of the student

- Meant for student´s independent studying outside contact hours
- Can be either
  preparing for the contact hours,
  writing/making/performing an assignment or
  reading to an exam
- Standardized hours for independent studying, for example how many pages student reads in one hour
- Teacher is responsible in planning and measuring the workload for student
- Usually on student´s own responsibility to perform, no set detailed plan for independent studying from teacher

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What is blended learning?

- traditional face-to-face learning systems with educational and communication technology, creating new blended methods to deliver nursing education curriculums
- blended learning is defined as any combination of face to face instruction with technology-mediated instruction, where all participants in the learning process are separated by distance some of the time
- Invite the students for dialogue between theory and practice, and provide access to expert and professional knowledge, skills and attitudes in real-world problem solving

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Learning methods in blended learning

- the blended learning approach enables the students to be exposed to a variety of learning experiences.
- A blended learning environment involves, for example,
  - face-to-face and online lectures,
  - simulations,
  - work-shops,
  - self directed learning and
  - online discussions and learning.
- New interactive technological equipment, such as desktop videoconferencing systems, combined with the blended learning environment promote students' social presence and interaction in learning

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Benefits of blended learning

As advantages of blended learning have been mentioned

- flexibility
- freedom of time restrictions
- pedagogic richness
- cost-effectiveness
- increase learner autonomy and
- encourage life-long learning

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Factors of potential barriers to the use of blended learning

1. Instructional processes;

- the complexity of the blended learning environment, a lack of time for preparation and planning the teaching, challenges in encouraging students to use the online section of the course and time management blended teaching.

2. Community concerns,

- a lack of institutional support and the demands of changes in the teacher's role, might prevent a teacher from putting blended teaching into operation.

3. Technological concerns,

- teachers' and students' discomfort with technology, insufficient technical support and inadequate hardware.

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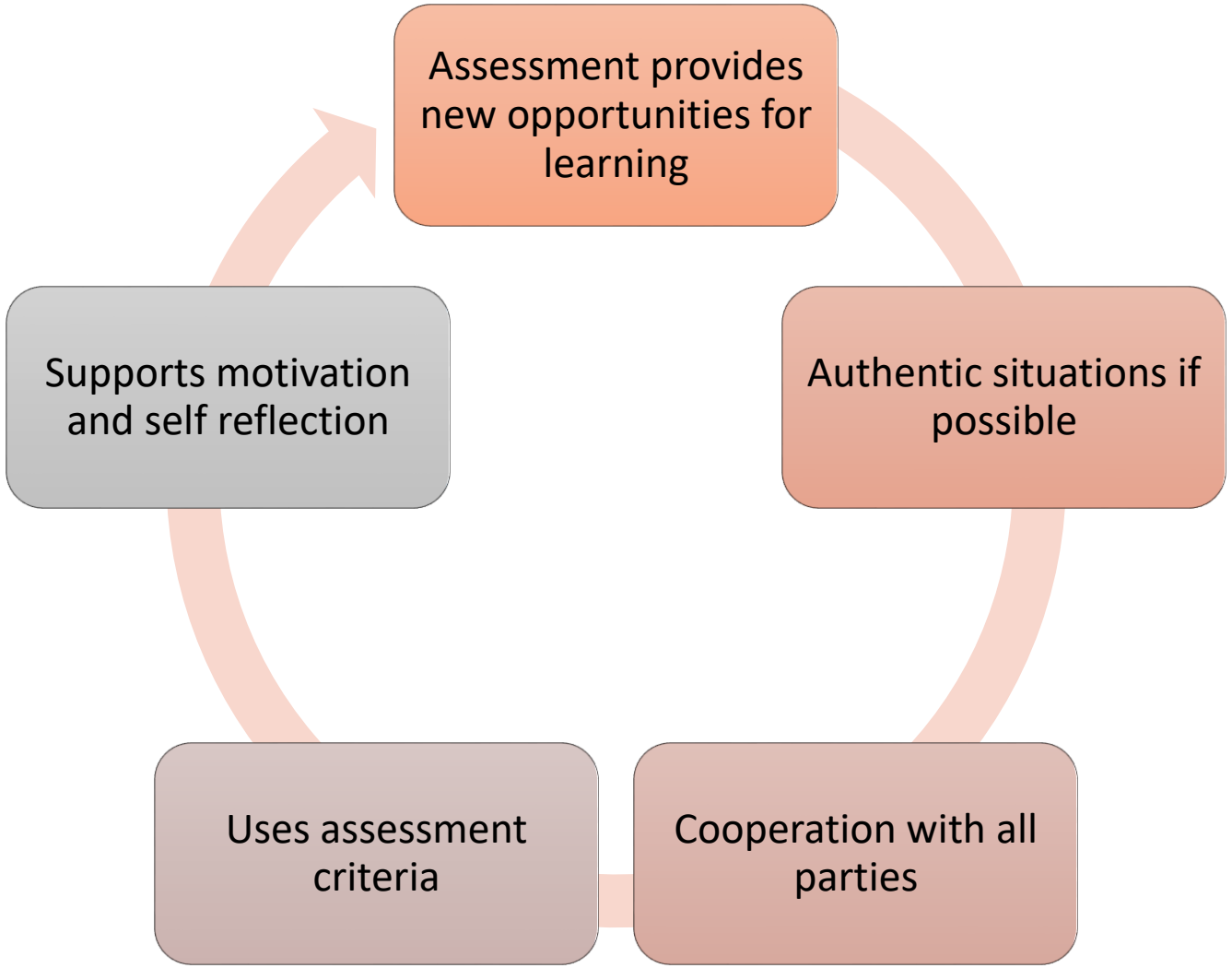
ASSESSMENT PROCESS SHOULD BE DESIGNED AND IMPLEMENTED, SO THAT:



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How the assessment is done?

- Learning is measured according to how well the learner performs in relation to competencies (objectives)- criterion referenced- rather than in relation to the other learners- norm based
- Multiple choice examinations are often not sufficient to evaluate skills, attitudes, and behaviors
- Need new/ creative methods of assessment

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Assessment as a part of the competence based curriculum

- It is important that student assessment forms a consistent whole and supports the attainment of learning outcomes and competences.
- An assessment plan should be based on the competence requirements. Assessment should not be targeted only to the professional competences, but also to take into account the attainment of generic competences.
- Learning is measured according to how well the learner performs in relation to learning outcomes and defined criterion - rather than in relation to the other learners.

- Multiple choice examinations are often not sufficient to evaluate skills, attitudes, and behaviors
- Need new/ creative methods of assessment.

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Formative and summative assessment

https://www.youtube.com/watch?v=bTGnJnuVNt8

Formative assessment is

- to monitor student learning to provide ongoing feedback that can be used by instructors to improve their teaching and by students to improve their learning.

Formative assessment **can**

- help students identify their strengths and weaknesses and target areas that need work
- help faculty recognize where students are struggling

Formative assessments generally have low or no point value, examples include asking students to:

- draw a concept map to represent their understanding of a topic
- turn in a research proposal or assignment for early feedback

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Formative and summative assessment

Summative assessment is

- The goal of summative assessment is to evaluate student learning at the end of an instructional unit by comparing it against criteria or standard.

Summative assessments often have a high point value. Examples of summative assessments include:

- an exam
- a project report
- an assignment

Information from summative assessments can be used formatively when students or faculty use it to guide their efforts and activities in subsequent courses.

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Traditional assessment	Competence based assessment
The assessment is summative	the assessment is formative
assessment comes at the end of instruction	the student is given a task, such as a project or writing a paper explaining their understanding of a theory
is a measurement of what a student has learned within a specific unit of time	Teacher evaluates by giving comments about the strengths and weaknesses of the student's understanding and returns the task to the student in order for the student to explore the competency in greater depth and, if needed, attempt the task again. The student continues to improve his or her understanding until the mentor is satisfied that the student has obtained mastery
student can pass the assessment or fail	If student can demonstrate mastery, they can move on; If not, they are provided with feedback on the areas that need additional work so that they can focus on those areas

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Grounds for self assessment

- Learning is based on experience
- Learning doesn´t happen straight from experience
- In order to transfer experience into learning reflection process is needed
- Reflection has to take place simultaneously with the experience
- Reflection has a feature of interdependence
  - one has to be able to compare his/her observations to some external criteria

(Keurulainen according Ruohotie 1998, Siebert 1996)

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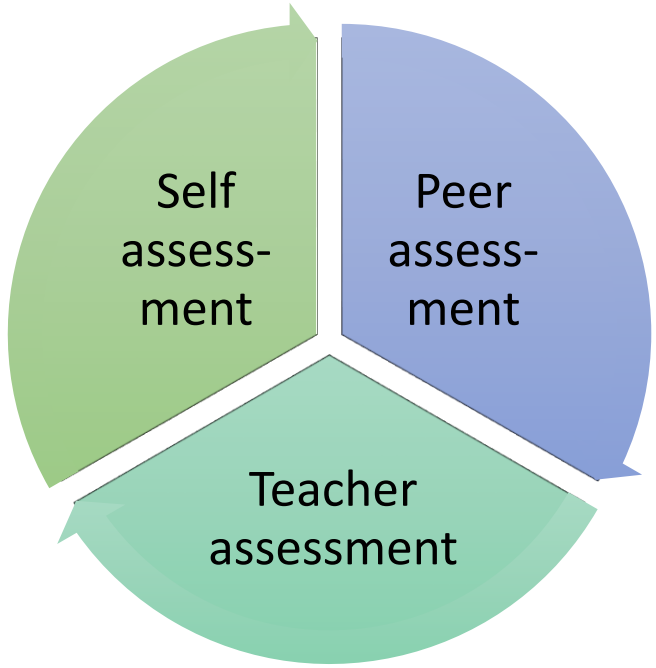
Peer assessment

- Peer learning has been used in education to address critical thinking, psychomotor skills, cognitive development, clinical skills, and academic gains
- Social interaction and collaboration between peer and student contribute to an increased learning curve and acquisition of further knowledge



360 degrees' assessment

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Linking learning outcomes and assessment criteria

Example

- **Learning outcome:** On successful completion of this module, students is able to: **Summarise evidence from the science education literature to support development of a line of argument**.

Assessment criteria (scale 1-5)

- 5: Outstanding use of literature showing excellent ability to synthesise evidence in analytical way to formulate clear conclusions.
- 4: Very good use of literature showing high ability to synthesise evidence in analytical way to formulate clear conclusions.
- 3: Good use of literature showing good ability to synthesise evidence in analytical way to formulate clear conclusions.
- 2: Fairly good use of literature showing the ability to synthesise evidence to formulate conclusions
- 1: Limited use of literature showing fair ability to synthesise evidence to formulate conclusions.
- **Fail:** Poor use of literature showing lack of ability to synthesise evidence to formulate conclusions

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How to assess different types of learning outcomes?

Type of learning outcome:	Examples of appropriate assessments:
• **Recall** **Recognize** **Identify**	• Objective test items such as fill-in-the-blank, matching, labeling, or multiple-choice questions that require students to: • **recall or recognize terms, facts, and concepts**

• **Interpret**
Exemplify
Classify
Summarize
Infer
Compare
Explain
	• Activities such as papers, exams, problem sets, class discussions, or concept maps that require students to:
	  • **summarize readings, films, or speeches**
	  • **compare and contrast two or more theories, events, or processes**
	  • **classify or categorize cases, elements, or events using established criteria**
	  • **paraphrase documents or speeches**
	  • **find or identify examples or illustrations of a concept or principle**

• **Apply**
Execute
Implement
	• Activities such as problem sets, performances, labs, prototyping, or simulations that require students to:
	  • **use procedures to solve or complete familiar or unfamiliar tasks**
	  • **determine which procedure(s) are most appropriate for a given task**

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How assess different types of learning outcomes?

- **Analyze**
  Differentiate
  Organize
  Attribute

- **Evaluate**
  Check
  Critique
  Assess

- **Create**
  Generate
  Plan
  Produce
  Design

- Activities such as case studies, critiques, labs, papers, projects, debates, or concept maps that require students to:
  - **discriminate or select relevant and irrelevant parts**
  - **determine how elements function together**
  - **determine bias, values, or underlying intent in presented material**

  → critical thinking

- Activities such as journals, diaries, critiques, problem sets, product reviews, or studies that require students to:
  - **test, monitor, judge, or critique readings, performances, or products against established criteria or standards**

- Activities such as research projects, musical compositions, performances, essays, business plans, website designs, or set designs that require students to:
  - **make, build, design or generate something new**

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Note when creating an exam

- Highlight how the exam aligns with course learning outcomes (level of the learning outcome).

- Identify which course outcomes the exam addresses:
  - e.g., “This exam assesses your ability to use nursing science terminology appropriately, and to apply the principles we have learned in the course to date”.
  - →This helps students to see how the components of the course align, reassures them about their ability to perform well, and activates relevant experiences and knowledge from earlier in the course.

- Estimate how long it will take students to complete the exam.

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Competence Based Assessment Methodology – Instruments (examples)

To be noticed:	Knowledge competence	Skills competence	Responsibility and team and leadership competence
1. Learning environments - Class room - Projects - Working life organizations - Virtual Or combinations? 2. Actors - Teacher – couple, team - Peer, peer group - Working life partner - Student 3. Recognition of prior learning?	- Written exam - Oral exam - Interview - Discussion - Narrative - Group situations - Assignments - Esseys - Articles - Portfolio - Mind map - Poster - Presentations	- Work demonstrations - Work plans - Work reports - Portfolio - Simulation - Case works - Observation - Produc - Critics - Video	- Discussion - Interview - Portfolio - Reflektion task - Report - Observation - Client feedback - Lecture - Peer assessment - Critics

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Assessment sentences

When you assess someone else´s work, you can use the following sentences:

1. What went well:
The things you did well were…
I feel you did well with…
You should ne very proud of…
The best part was..

2. Even better if:
To improve your work you need to…
Please try to…
In future you can consider to…
Next time you work with this, you need to…

3. Next step:
Your next step should be…
You´ve done well, next time…
To make this even better you could…
I´d like to see you try to….

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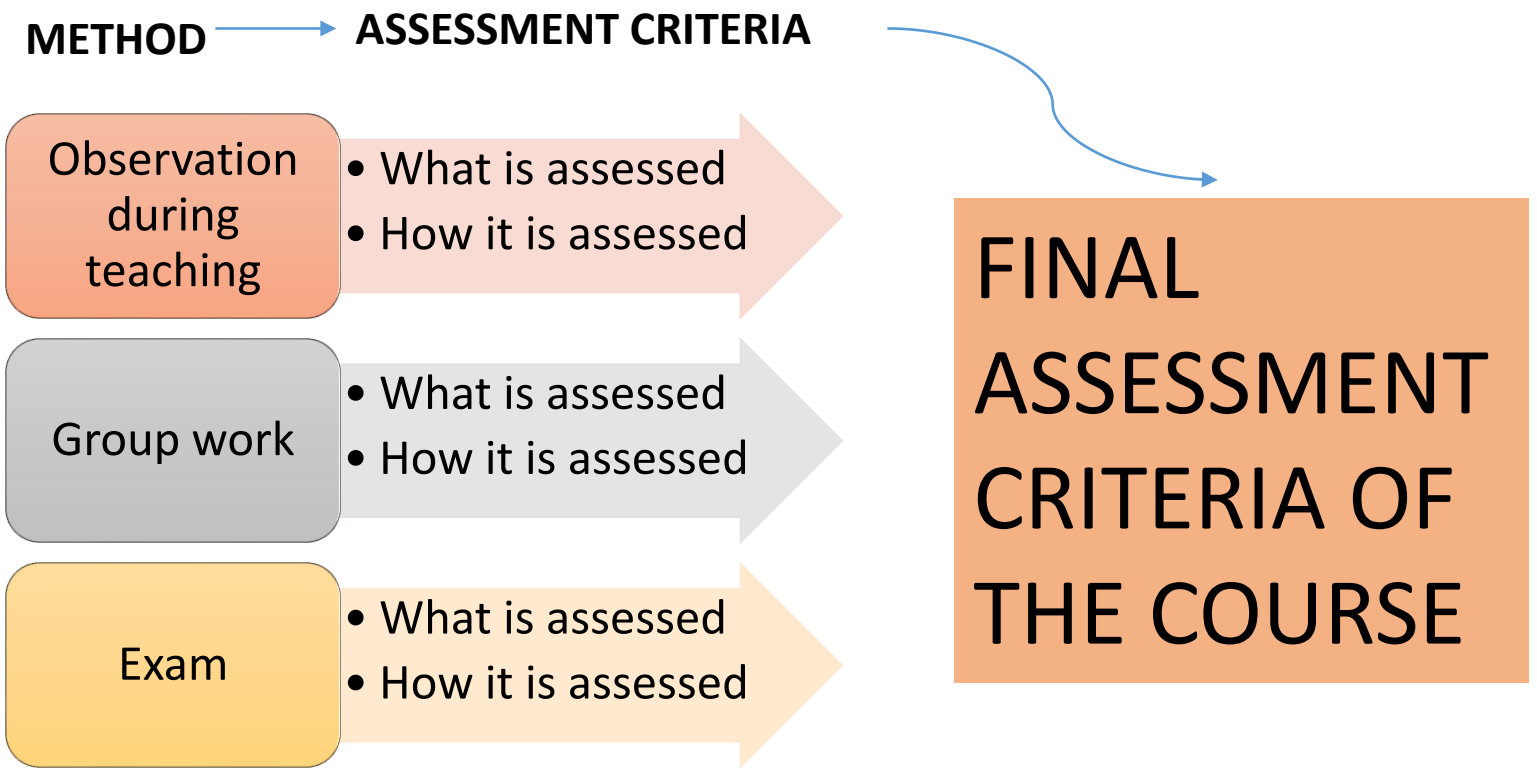
Assessment during and after a course



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Competence	Learning Outcome	Assessment (A)
professionalism	takes responsibility for their actions or inactions in accordance with the regulations of the organizational requirements and with nursing care of the patient with acute diseases	The student demonstrates knowledge of nursing care in acute diseases. Aware of the responsibility for their actions or inactions in accordance with the legal acts and organizational requirements. Independently assesses the condition of the patient with acute diseases, is able to plan of nursing care. Demonstrates the wide range of skills and techniques of patient-centered nursing care, using modern equipment and innovative medical products. Uses methods of protection against harmful interference in order to prevent nosocomial infections in surgical hospitals. Independently uses additional scientific literature at studying discipline, is able to organize their own program material.
innovation	Demonstrates knowledge of the rules of use of equipment and medical products intended for nursing care.	
Clinical Nursing	Demonstrate knowledge of clinical skills and patient-centered technologies nursing in acute diseases and prevention of nosocomial infections in surgical hospitals.	
Management and Quality	Understands the responsibility for improving the quality of its work in nursing care for acute conditions.	

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