

# Task and Problem Based Learning in Learning Situations

How to create learning scenarios?

Module 2



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# Contemporary Curricular Standards in UA

Let's take a closer look at a new curricular standard. As an example, I have chosen the standard for bricklayers. The others are similar...



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*State educational standard*

7122.F.41.20-2023  
(позначення стандарту)

Урофесія: Муряр

# Contemporary Curricular Standards in UA

The structure of the content of the Standard is based on the **competence approach**, which involves the formation and development of **key, general and professional competences** of the student.

**General competences - general abilities and skills (psychological, cognitive, social and personal, informational, communicative)** that allow a person to understand the situation, succeed in personal and professional life, maintain social identity and ensure effective professional and interpersonal interaction.

The key competences in this Standard correlate with the general competences, with the **cross-cutting competences**, and are taught (developed) to students at all levels of education.

**Professional competences are a set of knowledge, skills and abilities**, professionally significant qualities of individuals that ensure their ability to perform labour functions recognised by the relevant qualification characteristics, to quickly adapt to changes in professional activities and are components of appropriate professional qualifications.

The learning outcome requirements for students according to the Standard are formed on the basis of a list of key and professional competences and their

Source: Ministry of Education and Science of Ukraine. (2023).  
State Educational Standard – Bricklayer, p. 4



# Contemporary Curricular Standards in UA

Структура змісту Стандарту базується на компетентнісному підході, який передбачає формування та розвиток ключових, загальних та професійних компетентностей студента.

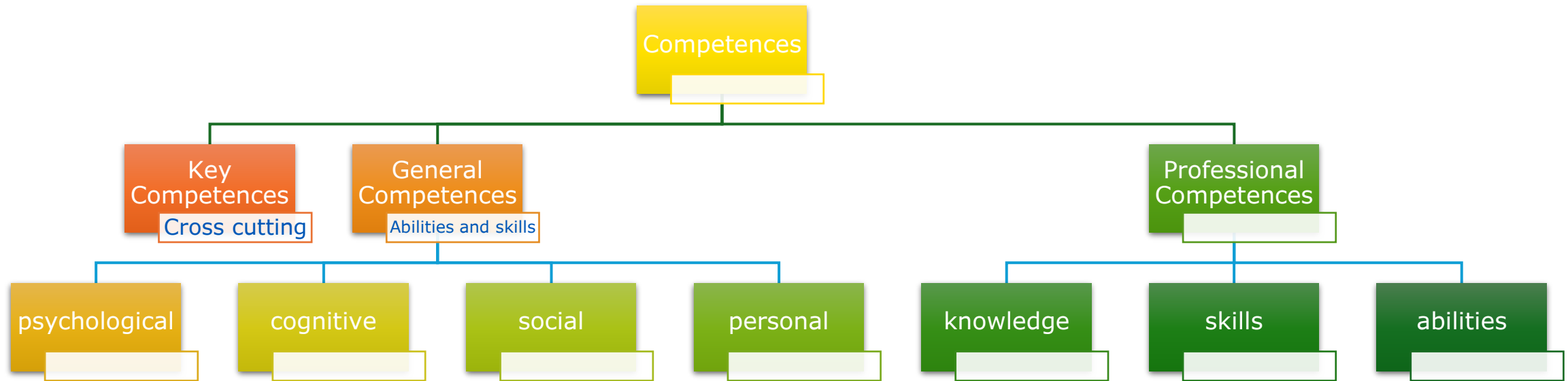
Загальні компетентності – це загальні здібності та навички (психологічні, когнітивні, соціально-особистісні, інформаційні, комунікативні), що дозволяють людині розуміти ситуацію, досягати успіху в особистому та професійному житті, зберігати соціальну ідентичність та забезпечувати ефективну професійну та міжособистісну взаємодію.

Ключові компетентності в цьому Стандарті співвідносяться із загальними компетенціями, з наскрізними компетенціями та викладаються (розвиваються) студентам на всіх рівнях освіти.

Професійні компетентності – це сукупність знань, умінь та навичок, професійно значущих якостей особистості, що забезпечують її здатність виконувати трудові функції, визнані відповідними кваліфікаційними характеристиками, швидко адаптуватися до змін у професійній діяльності та є складовими відповідної професійної кваліфікації.

Вимоги до результатів навчання студентів згідно зі Стандартом формуються на основі переліку ключових та професійних компетентностей та їх

Source: Ministry of Education and Science of Ukraine. (2023).  
State Educational Standard – Bricklayer, p. 4



- to succeed in personal and professional life
- ...
- to ensure effective and interpersonal interaction

- to ensure the ability to perform labour functions
- ...

Unfortunately, the curricula provide us with very little guidance on how to promote comprehensive professional competence ...

ZPK-8	Mastering the basics materials science	<p><b>Know:</b>            general information about the materials used in the installation of building envelope insulation systems;            products of leading construction materials companies in the Ukrainian market;            modern requirements for the quality of construction products;            classification and standardisation of building materials used in the insulation of facades and their decorative finishing;            types of coatings for finishing an insulated facade: decorative thin-layer plasters;            types of cladding materials for insulated facades;            materials for building insulation at low temperatures.</p> <p><b>To be able to:</b>            analyse consumer characteristics of materials for the construction of thermal insulation systems</p>

General /  
Professional  
Competence

Source: Ministry of Education and Science of Ukraine. (2019). Standard of professional (vocational) education – Installer of building insulation systems, p. 9

Unfortunately, the curricula provide us with very little guidance on how to promote comprehensive professional competence ...

General /  
Professional  
Competence

ЗПК-8	Освоєння основ матеріалознавство	<p>знати:</p> <p>загальні відомості про матеріали, які використовуються при монтажі систем утеплення огорожувальних конструкцій;</p> <p>продукція провідних компаній ринку будівельних матеріалів України;</p> <p>сучасні вимоги до якості будівельної продукції;</p> <p>класифікація та стандартизація будівельних матеріалів, які використовуються для утеплення фасадів та їх декоративного оздоблення;</p> <p>види покриттів для оздоблення утепленого фасаду: декоративні тонкошарові штукатурки;</p> <p>види облицювальних матеріалів для утеплених фасадів;</p> <p>матеріали для утеплення будівель при низьких температурах.</p> <p>Щоб мати можливість:</p> <p>аналізувати споживчі характеристики матеріалів для конструкцій теплоізоляційних систем</p>
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Source: Ministry of Education and Science of Ukraine. (2019). Standard of professional (vocational) education – Installer of building insulation systems, p. 9



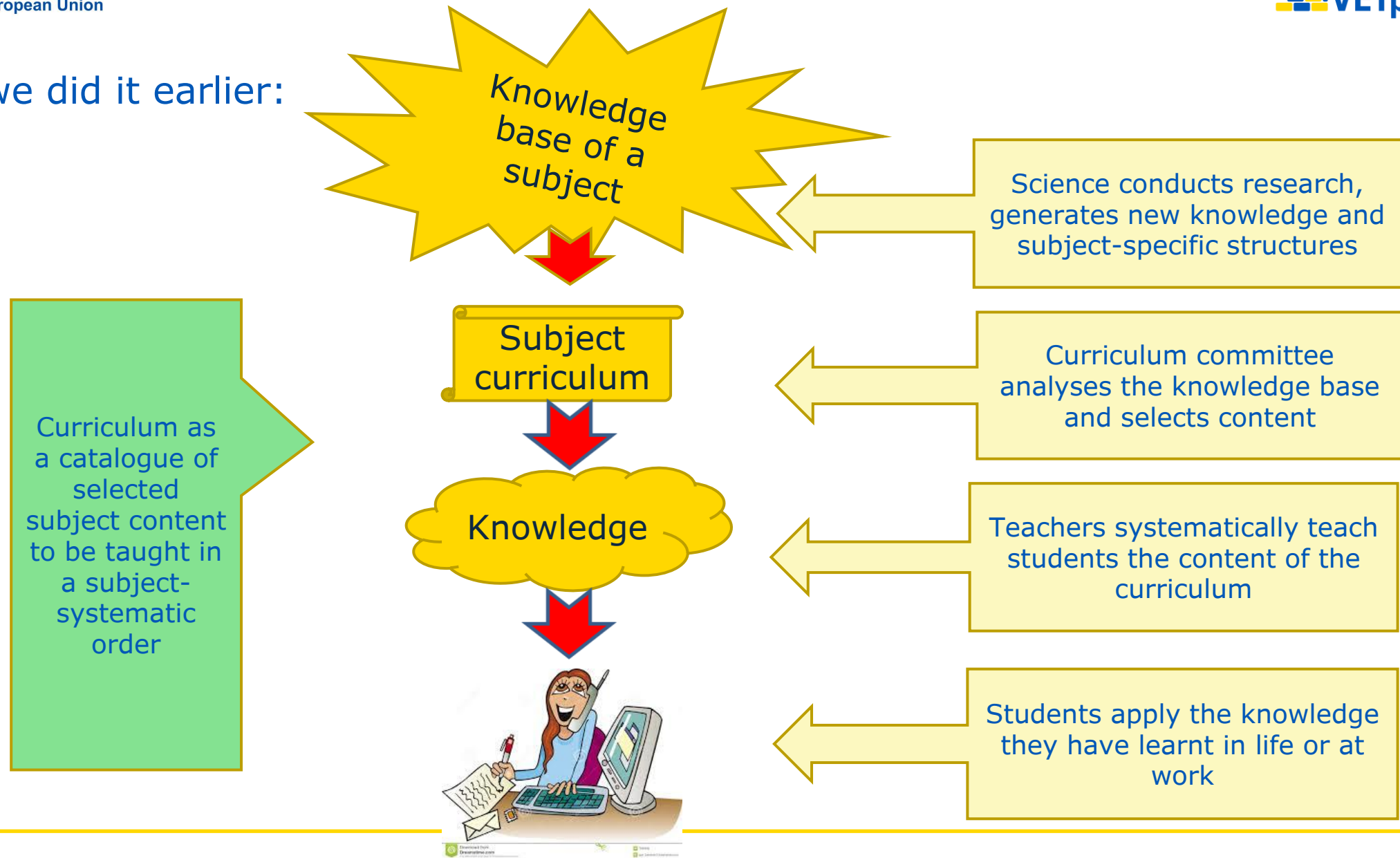
# Short Discussion

- How do you foster this set of competences in your lessons?



Photos: Michael Erz

- How we did it earlier:





Increasingly rapid technical, economic and social change:

- Decreasing half-life of knowledge
- Demand for comprehensive professional competence

School produces students, who know a lot but but they cannot perform practical tasks in everyday working life: Extensive specialised knowledge does not automatically lead to practical ability to act.

Criticism from industry of vocational school lessons, that are too theory-orientated and far removed from practice.

**The consequence: We need a new didactic-methodological approach!**

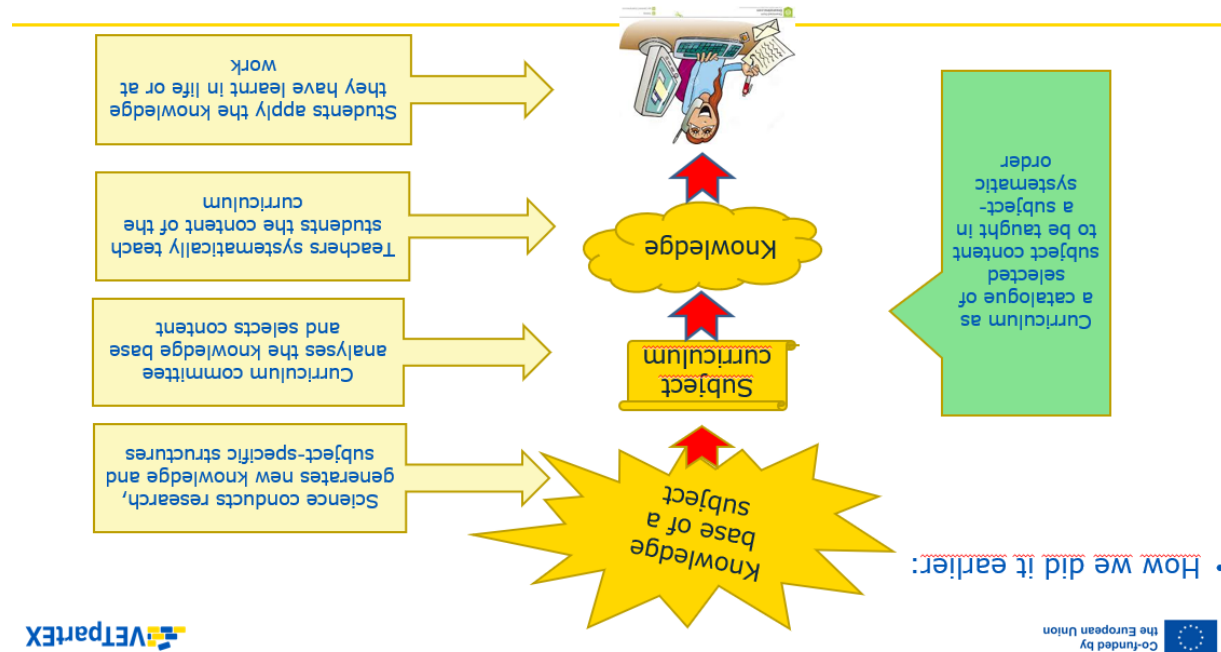


Source: Pixabay

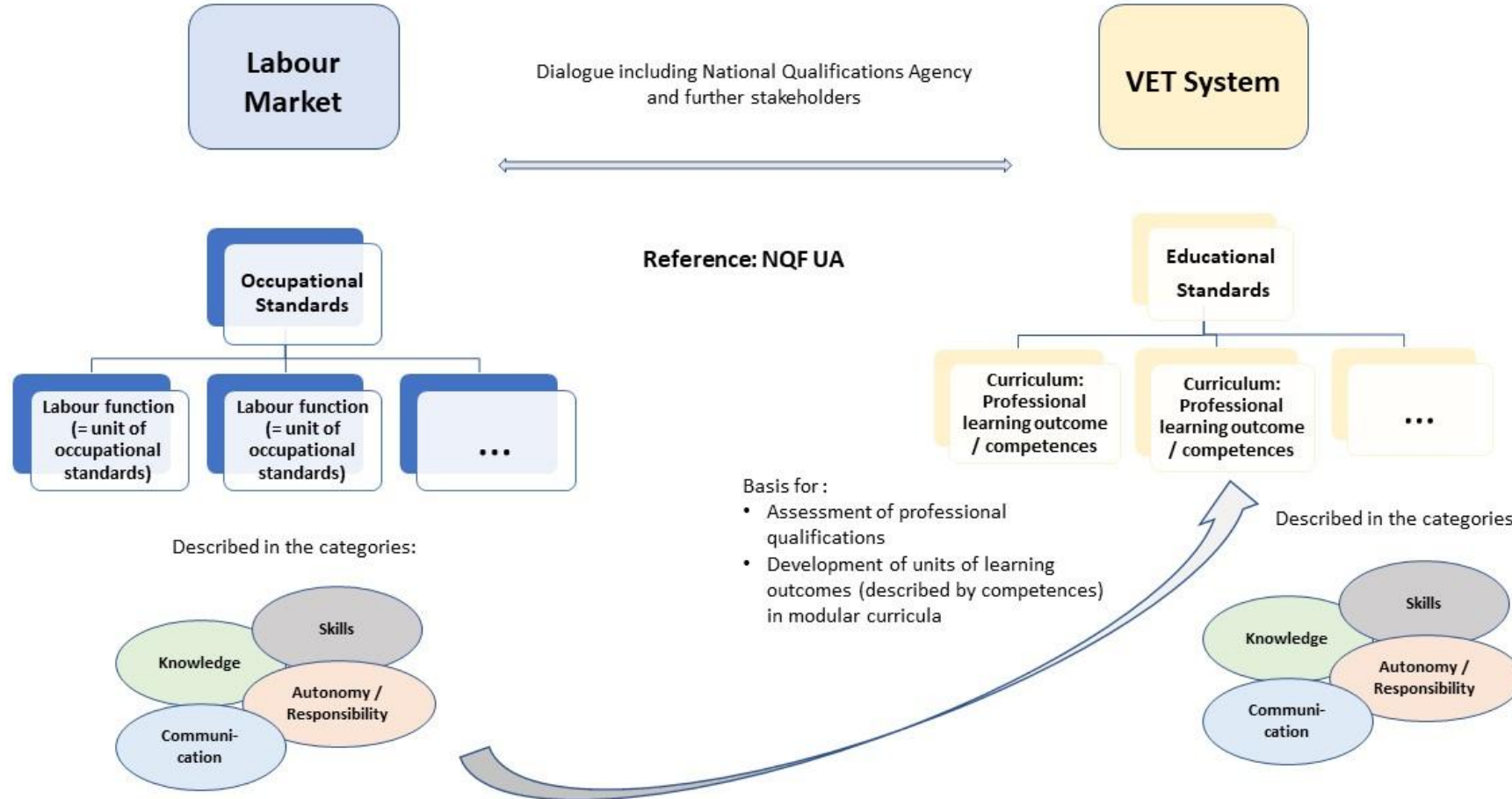
To achieve this, we need to turn our old 'world view' on its head and consider vocational training not from the perspective of the current state of science, but from the perspective of profession-specific realities:

The new approach is based on typical occupational work and business processes, which define an occupation.

This view is entirely consistent with current curricular developments in Ukraine.



# UA Reforms



Source: Own Illustration - Future Oriented VET for the Construction Sector in Ukraine in a Partnership for Excellence, Identification and Specification of VET Teacher Training competences, VETpartEX / Erasmus-EDU 2024-CB-VET / ID 101183275



This idea forms the basis for a methodical didactic approach to teaching at vocational schools in Germany, which is problem-oriented, practice-oriented, vocationally-situational and task-based. Similar approaches exist in other European countries.

Source: Pixabay

But how do we create such problem-oriented and task-related learning scenarios?  
(In Germany, we refer to these scenarios and the didactic concept behind them as learning situations.)

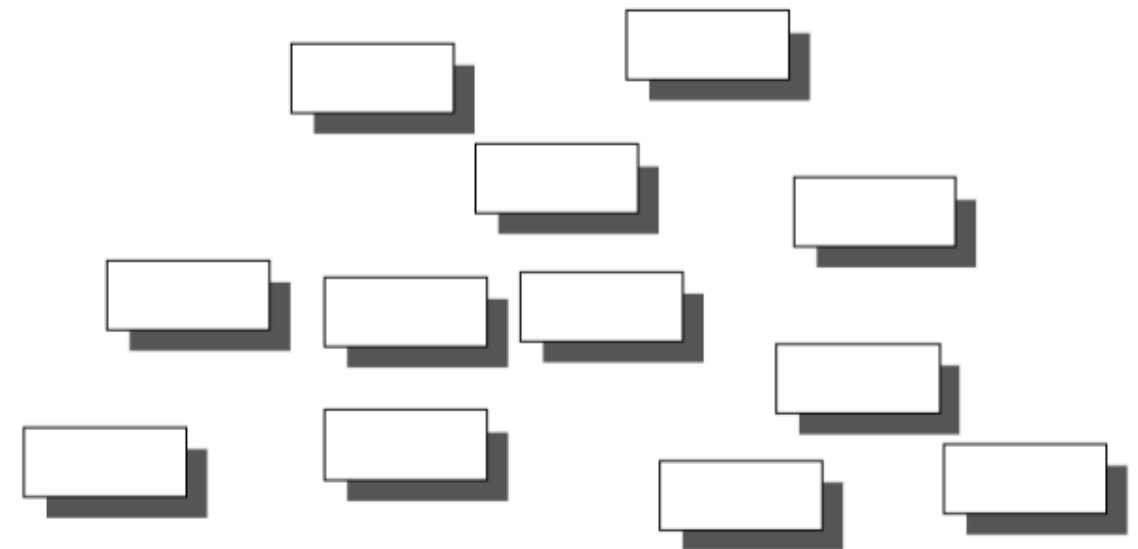
Let's first take a look at this concept.



Source: Pixabay



- "Every profession is characterised by a multitude of different professional tasks and action sequences." (Nds. KM, 2001, p. 5)
- "Based on individual company work practice, the typical occupational (as opposed to typical company) action situations (Handlungssituationen) are to be recorded, including those that are to be expected in the future." (ibid.)

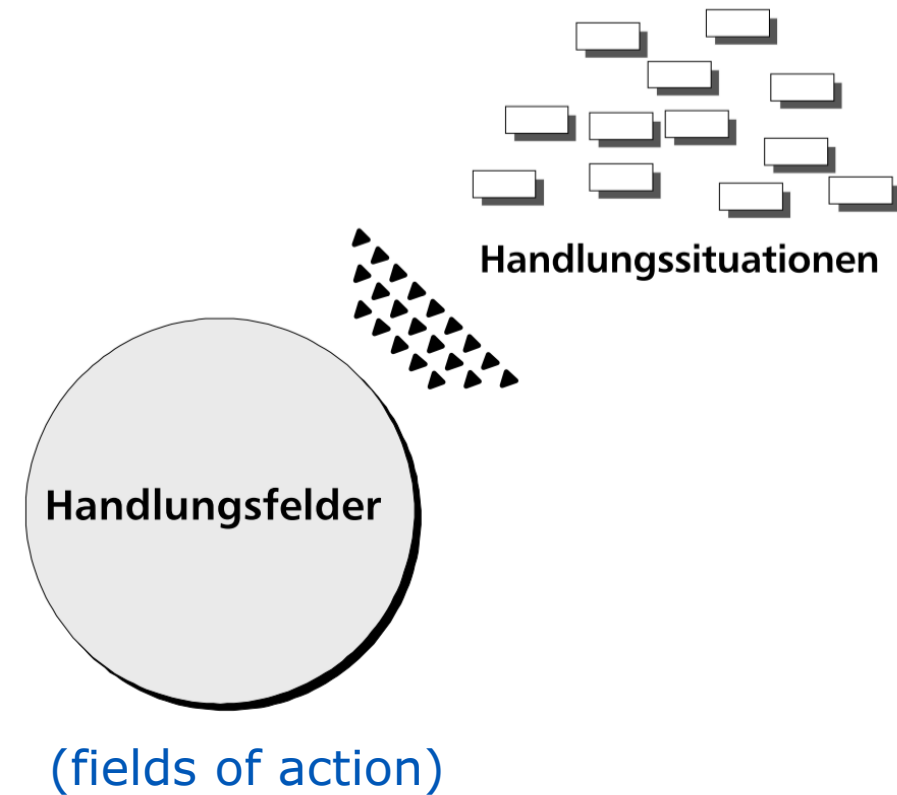


# Handlungssituationen

(action situations)

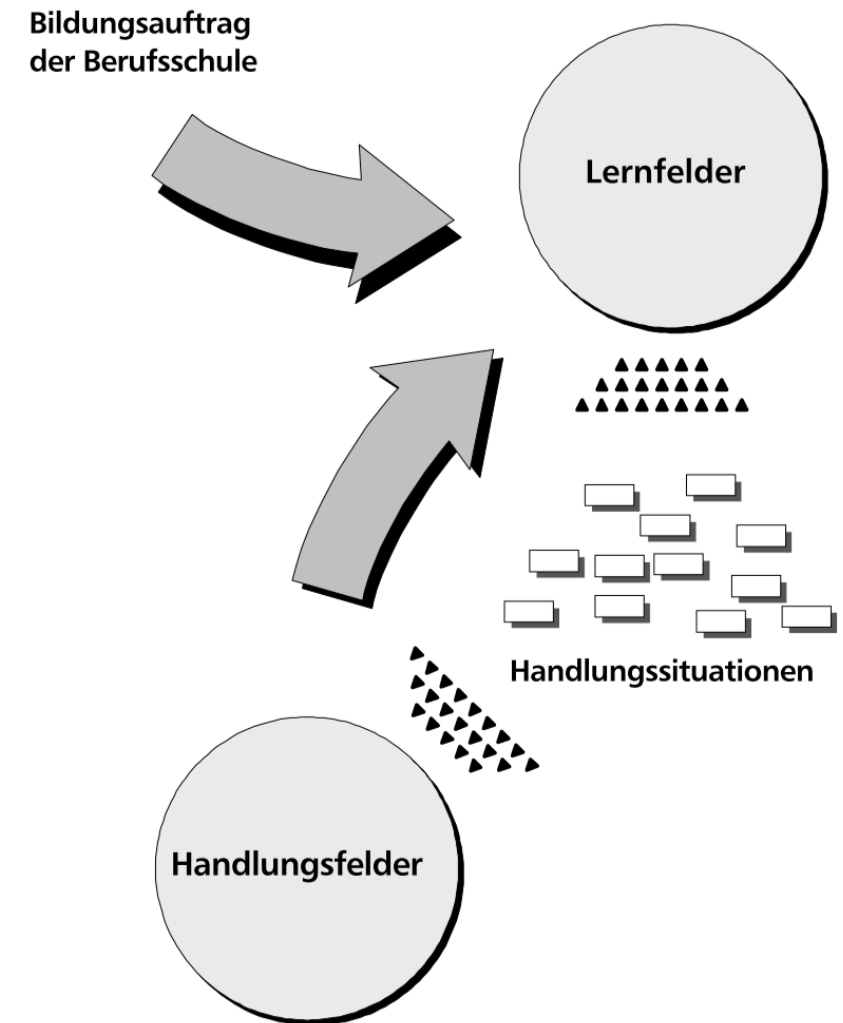
Source: <https://nibis.de/uploads/2bbs-poelking-oesselmann/files/MAT%20Lernfelder-2001.pdf>, p. 5

"The large number of real-life situations makes it necessary to analyse them for their relevance to the profession, their significance for the future, their similarities, their exemplarity, etc., but also for their suitability as a basis for learning fields and then to structure them: Into fields of action (Handlungsfelder)."



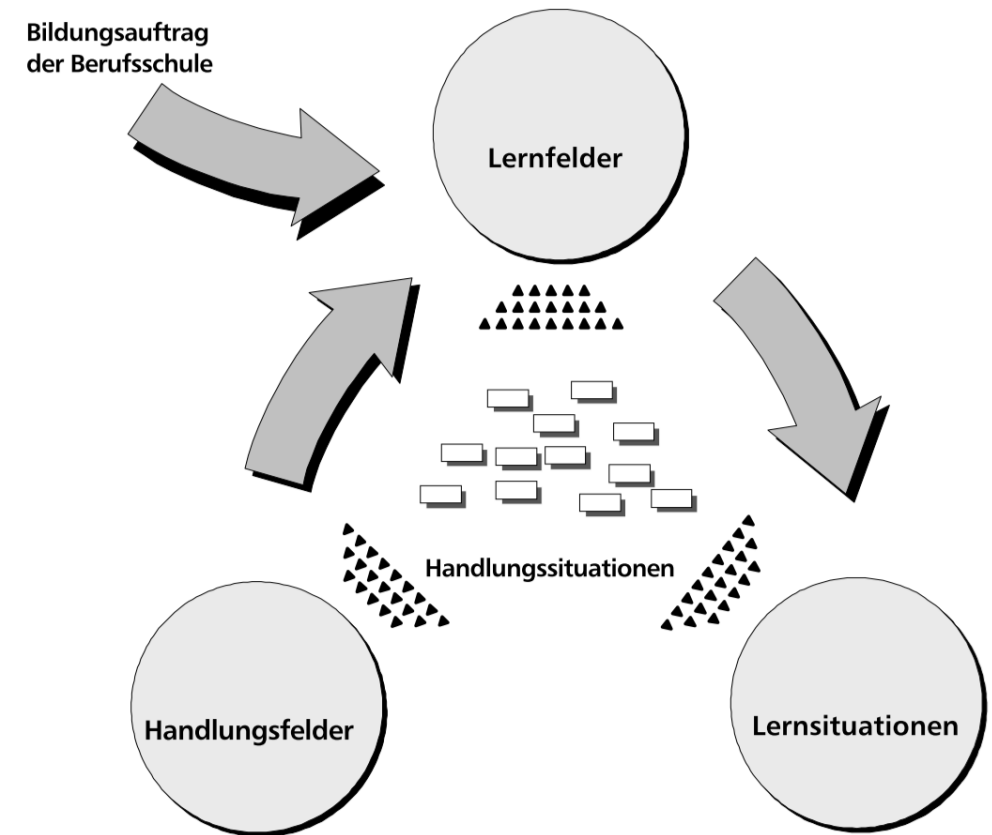
Source: *ibid.*

- "Learning fields (Lernfelder)[...] refer to the fields of action and the underlying action situations, but do not simply reflect them, but point beyond them, e.g. through the educational mission of the vocational school."  
(ibid.)
- "The educational mandate includes the individual and social environment of the pupils and prevents a narrowing down to vocational fields of action."  
(ibid.)



Source: ibid.

- "In learning situations (Lernsituationen), the learning fields (Lernfelder) for teaching are concretised under the framework conditions of the respective school." (ibid.)
- "The structure of a learning situation is determined by the sequence of the action phases of informing, planning, deciding, evaluating [and reflecting]." (ibid.)
- "As a rule, a learning field is prepared for teaching through several learning situations that depict different action situations." (ibid.)



Source: ibid.



## Example for a learning field (Lernfeld) for the profession of bricklayer

<b>Lernfeld 1:</b>	<b>Setting up construction sites</b>	<b>1st year of training</b> <b>Estimated time: 20 hours</b>
<p><b>The students have the competence to set up construction sites according to the order, taking into account their own profession, other trades and local conditions.</b></p> <p><b>The students analyze the local situation for the order-related setup of a construction site, taking into account the specifics of their own profession, rational work processes, and planned measures for accident prevention and environmental protection.</b></p> <p><b>The students learn about other parties involved in the construction process and their areas of responsibility (<i>construction professions, client, planning offices, construction companies, building supervisory authorities</i>). They read construction site layout plans, even in a foreign language (<i>plan components, furnishings, space requirements, symbols, scale</i>), and construction schedules, and draw conclusions about the sequence of trades and work phases. They learn about behavior on construction sites (<i>communication rules, authority to issue instructions, accident reporting, first aid</i>) and accident prevention measures (<i>personal protective equipment, hazard symbols, work and protective equipment, ladders, traffic safety measures, preventive fire protection, handling of electricity</i>) and environmental protection measures (<i>storage of environmentally critical substances, waste disposal, water protection</i>).</b></p> <p><b>The students plan the layout of the workplaces for their trade based on construction site layout plans</b></p>		

Source: [https://www.berufsbildung.nrw.de/cms/upload/\\_lehrplaene/a/bau-hoch\\_maurer\\_vbp2026.pdf](https://www.berufsbildung.nrw.de/cms/upload/_lehrplaene/a/bau-hoch_maurer_vbp2026.pdf)

The descriptions of competencies in the Ukrainian standards are also not more specific ...

## 2.4. Зміст (опис) результатів навчання

Результати навчання	Компетентності	Опис компетентностей	
		Знати:	Уміти:
РН 1. Організувати будівельний майданчик для виконання кам'яних робіт	ПК 1. Здатність підготувати робоче місце для виконання кам'яних робіт	<p>основні відомості про: види будівельних робіт; класифікацію будівель і споруд та види їх конструктивних схем; види та частини конструкції будівель; технічну документацію в будівництві;</p> <p>Державні будівельні норми України (ДБН), норми та правила (БНіП); організацію будівельного майданчика; основні вимоги до підготовки робочого місця</p>	<p>організувати робоче місце відповідно до технічної документації, ДБН;</p> <p>використовувати засоби безпеки праці та індивідуального захисту в т.ч. під час роботи на висоті;</p> <p>підбирати та використовувати ручні, механізовані, електричні інструменти;</p> <p>готувати до роботи робочі та контрольно-вимірвальні</p>

Source: Ministry of Education and Science of Ukraine. (2023). Standard of professional (vocational) education – Bricklayer, p. 9



Conclusion: The description of the learning areas and the associated competencies, which we find in our curricula are quite general.

Who is responsible for designing learning situations and thus the specific structure of the lesson plan?

We as teachers ...



Source: Pixabay

# Job 2.1



On this Padlet, you will find several introductory scenarios for learning situations.

- What are the objectives of the scenarios?
- What learning outcomes are conceivable?
- What opportunities does the scenario offer for the learning process?
- What problems could arise?

Work in Teams (3-4) and collect your ideas on the Padlet.



## Let`s discuss your ideas ...



Source: Pixabay