

Improving the Quality of Learning in Technical and Vocational Education

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Guiding questions for the panel

1. In the near future, new groups of young people coming from disadvantaged backgrounds are going to attend **tertiary technical education**. What can we learn about the balance of skills development between **secondary and tertiary technical education** (basic, general and technical skills)?
2. Which are the best practices in **assessment and evaluation of student's** development of technical skills?
3. We know that a **trainer's ideal profile** should include **technical skills** as well as pedagogical ones. How can we **address this gap** in the near future?
4. Which are the **main factors for students' success in TVET**, in order to ensure successful trajectories?
5. In your opinion, which are the **main tensions** to solve in order to develop a **Qualification's System in TVET**, successfully coordinated with the **quality assurance system**?

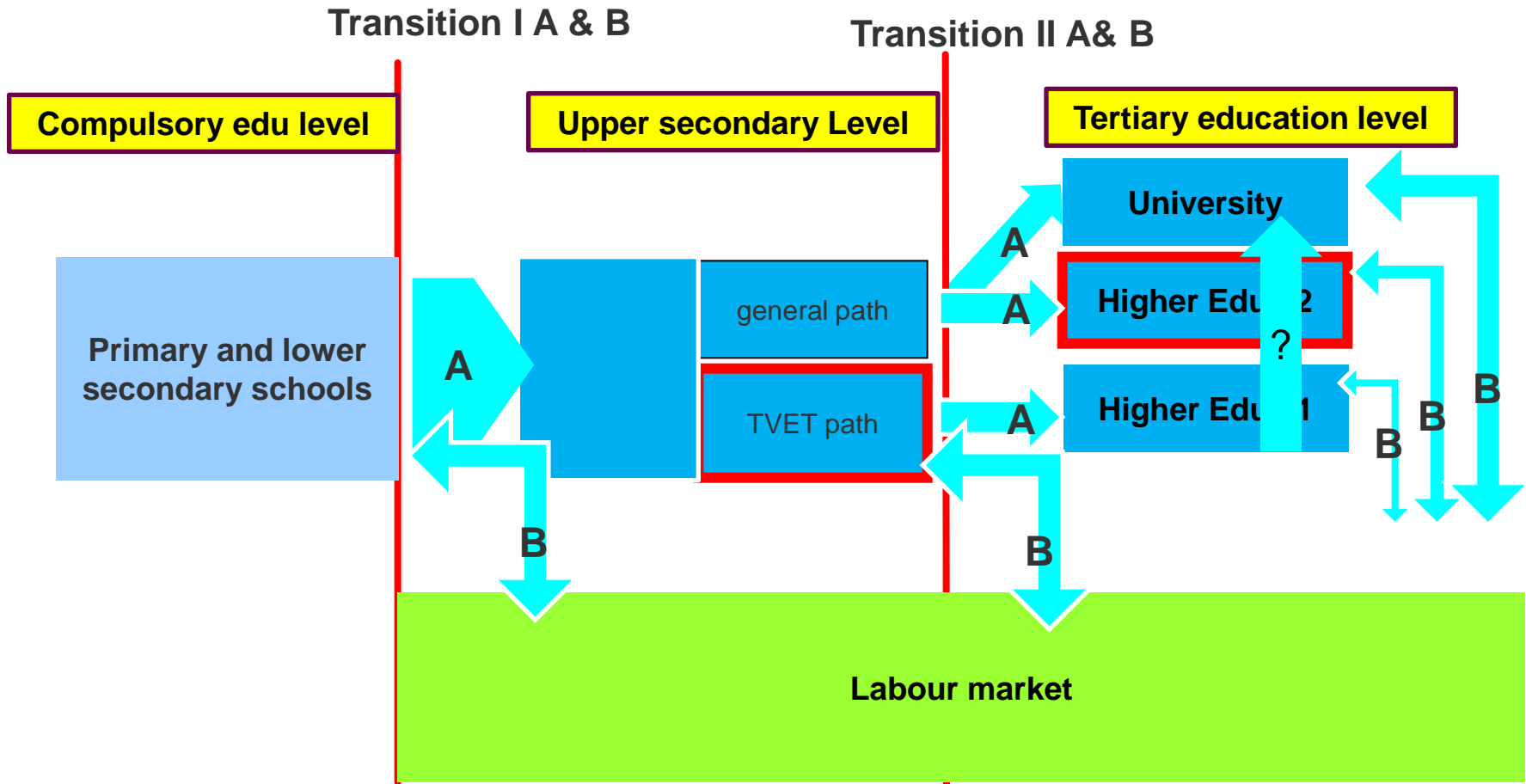
Agenda

1. What is the purpose of secondary and tertiary TVET?
2. Changing requirements on the labor market
3. Professionals (teacher, trainer, examiners)
4. Quality of learning in TVET and some answers to the guiding questions

What is the purpose of VPET?

- Preparing young people for the **labor market** by **organizing a meaningful and effective educational process** (curriculum, application, feedback/outcome measurement)
- Offering **progression routes** within the whole education system (permeability → no dead end education)
 - Hence secondary and tertiary technical education should be coordinated by making **transition mechanism** transparent

Transition mechanism



Secondary & tertiary TVET must lead to 2 tickets:
 1) entry ticket into the labour market; 2) entry ticket to further education

Secondary and tertiary TVET must be in-line with needs of the labour market - different programs within secondary and tertiary education level

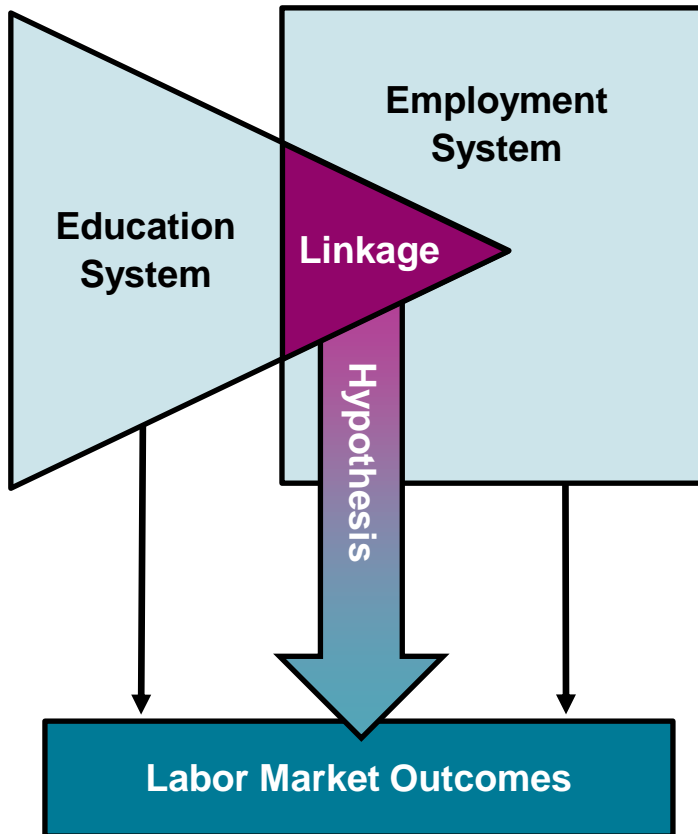
		Encoding	Programming
		Education	
Reflection of unit		Pass / Fail	VET Curriculum
Structuring of operations			
Employment system code and programming (own depiction)		Encoding	Programming
		Employment	
Reflection of unit		Payment / Non-payment	Skills supply and demand for labor
Structuring of operations			



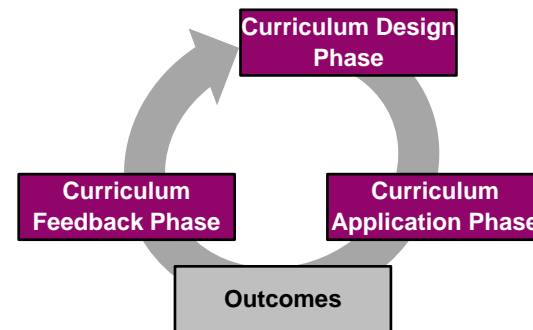
Coupling or linkage mechanisms

Employment system code and programming (own depiction)

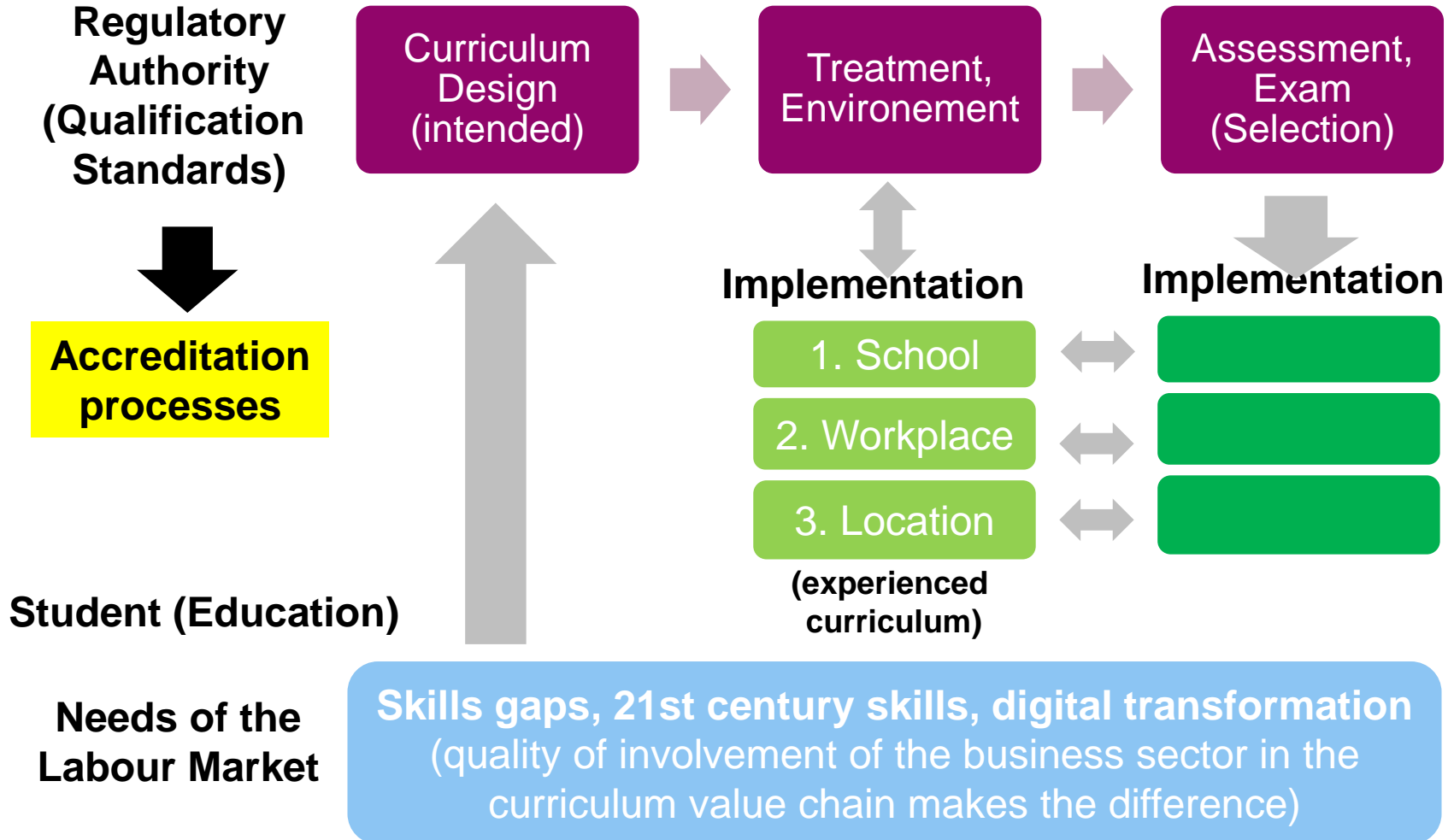
Education-employment linkage is a prerequisite for student's success



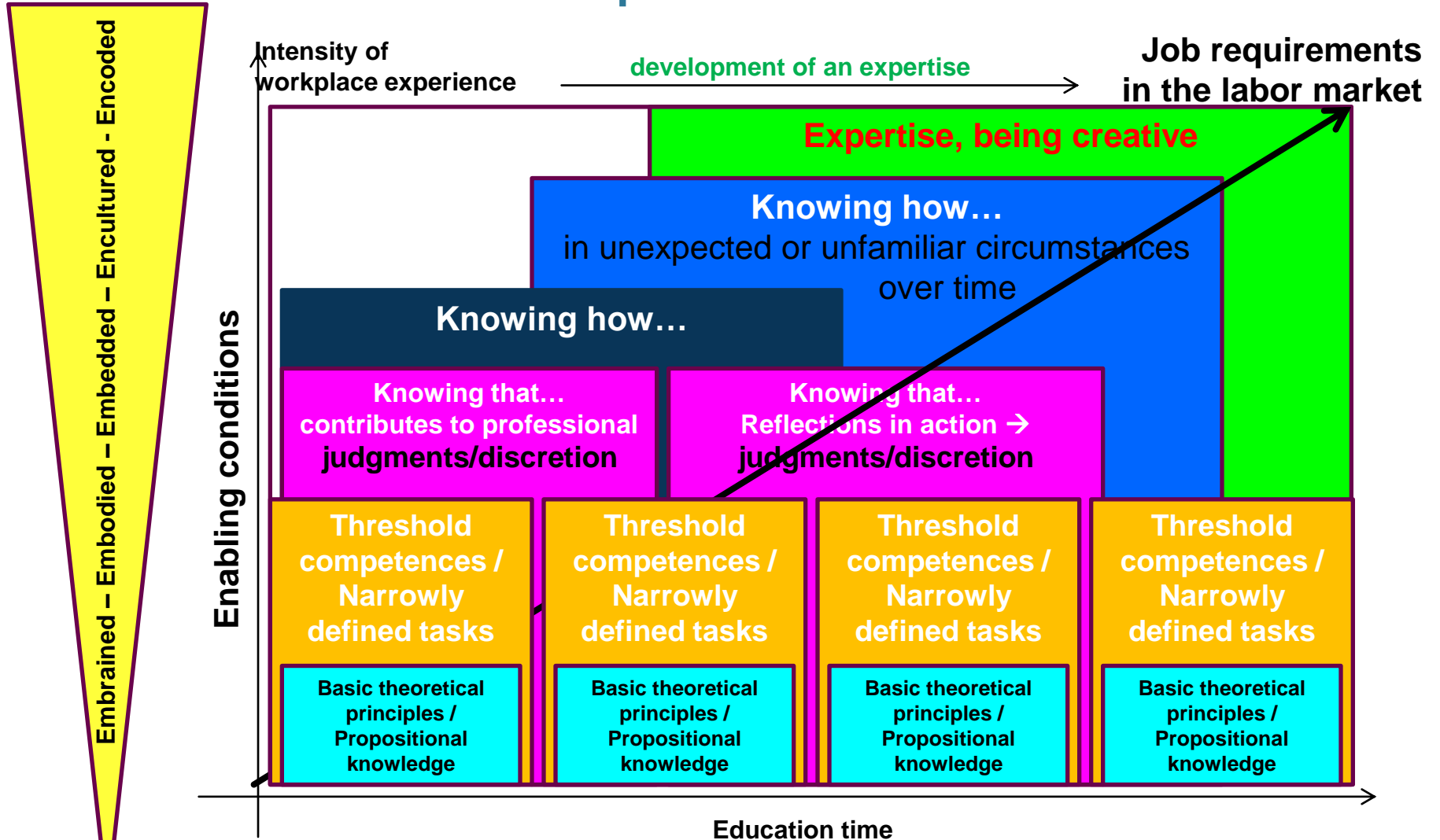
- Generally, **linkage** is in all the processes where actors from the education and employment systems interact in VET.
- It should help improve graduates' labor market outcomes.



Exploring the effects of a VPET Curriculum: How to establish strong linkages?



«Developing an expertise requires exposure to unfamiliar and unexpected situations»

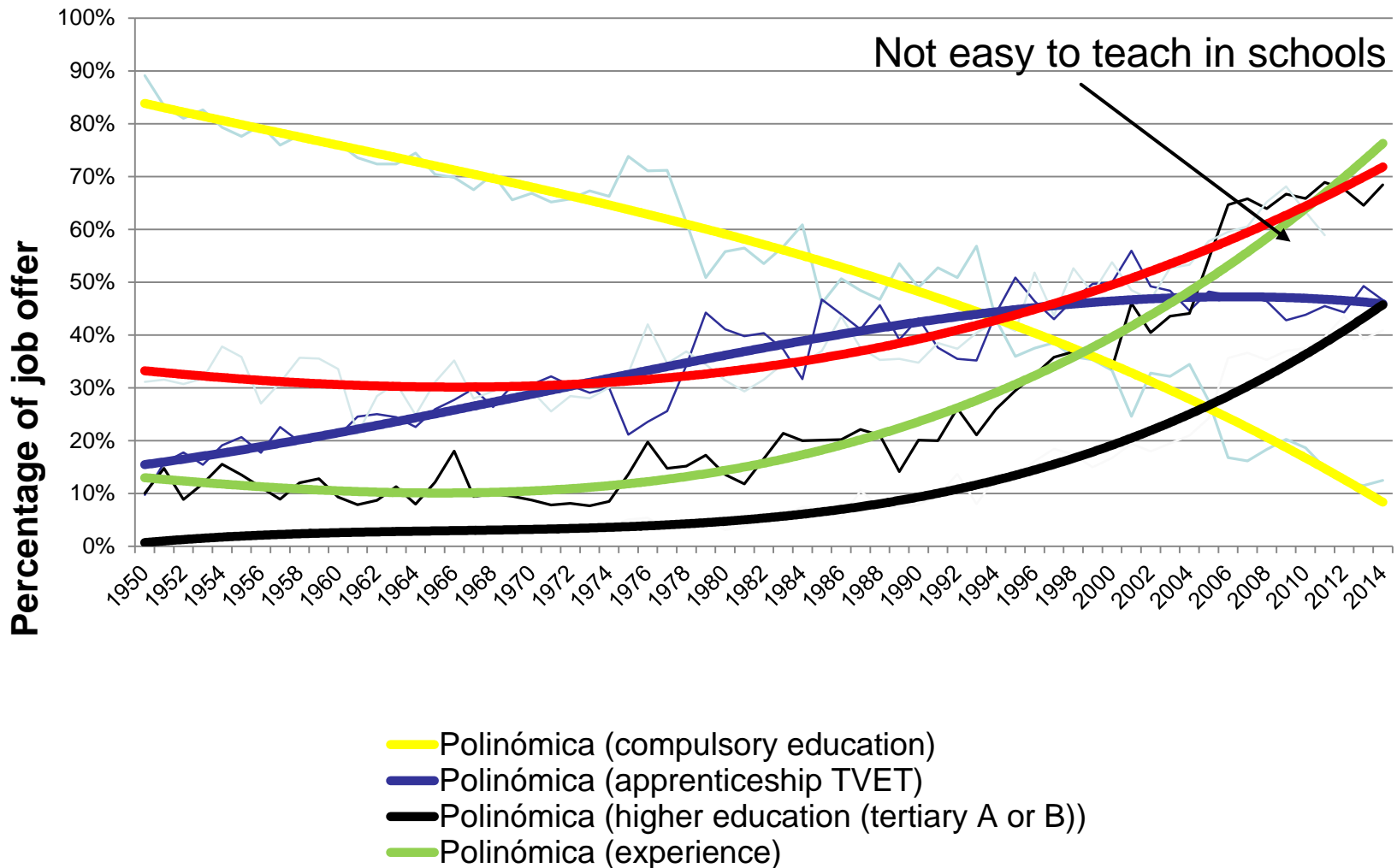


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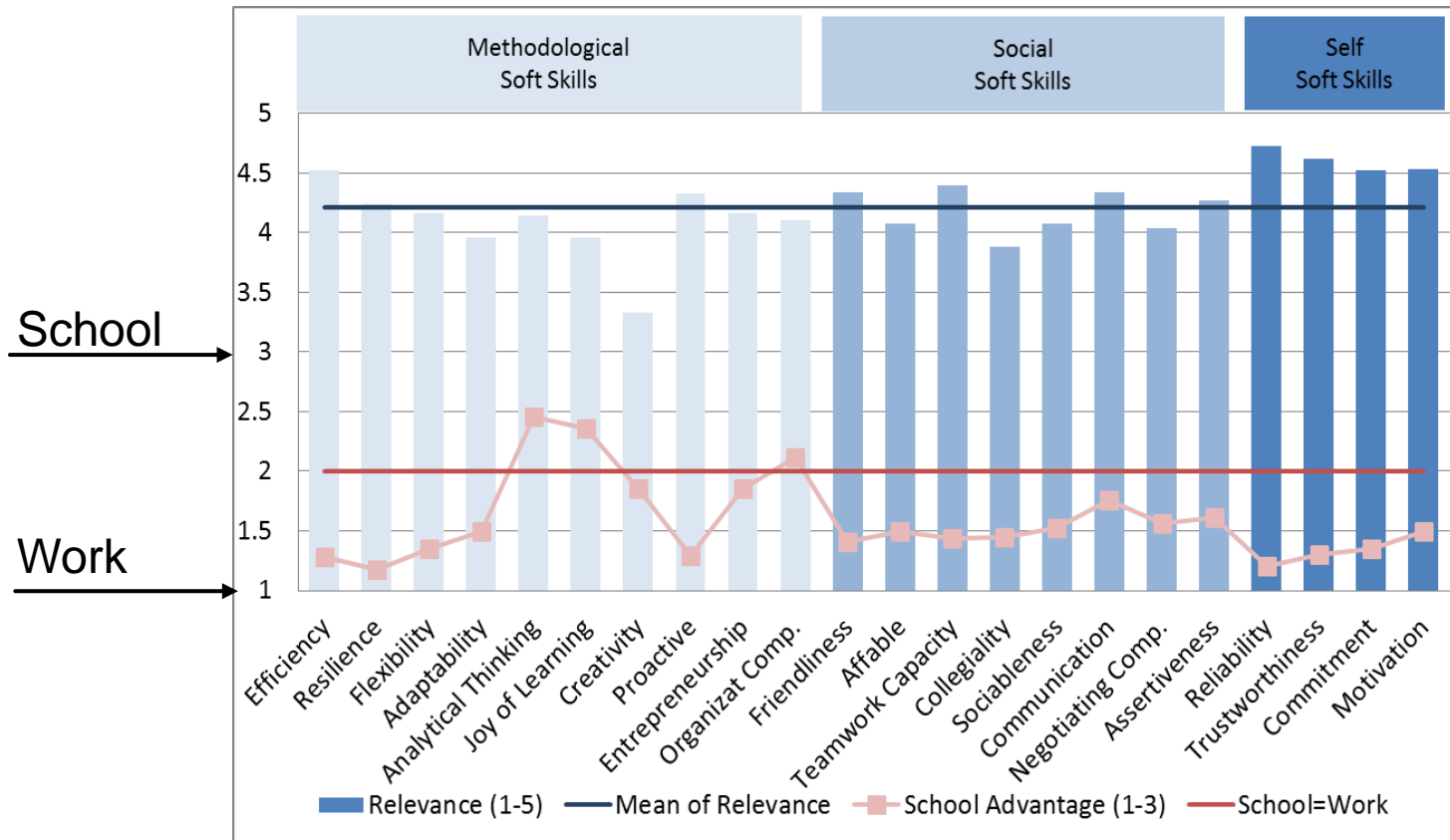
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Needs of the labour market – some trends

Job Market Monitor Switzerland 1950-2014



Relevance and Comparative Advantage of Schools by Soft Skills: Employer Survey in Switzerland



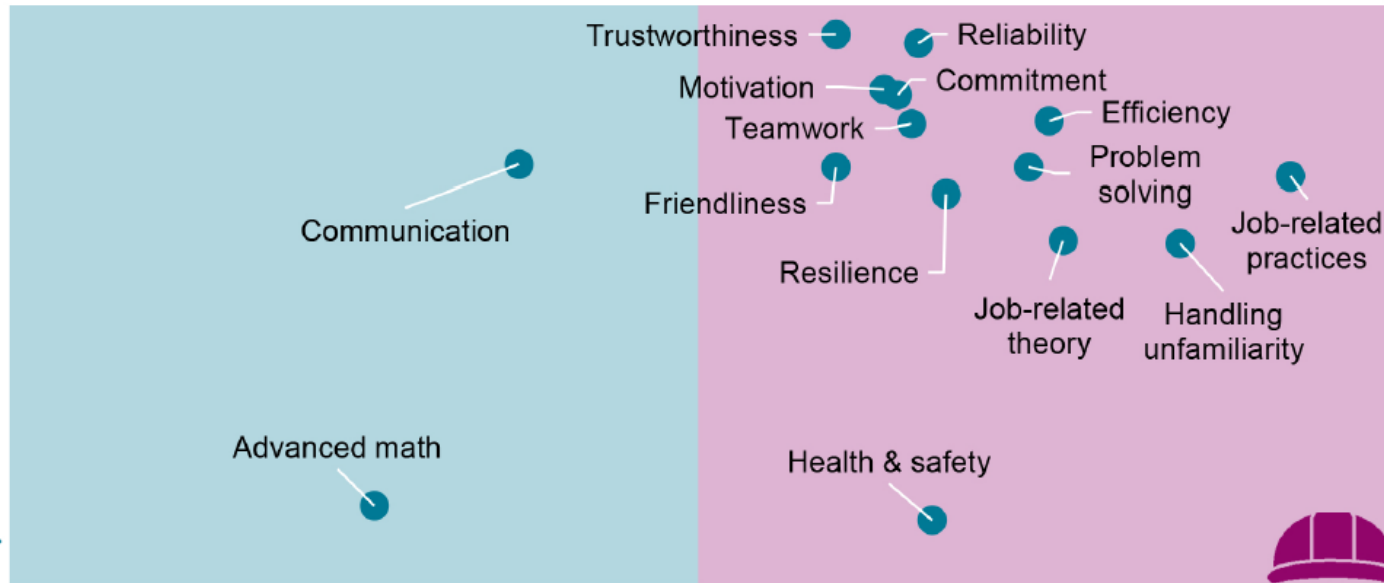
(Source: **Bolli Th. and Renold, U. (2017)**: Comparative Advantages of School and Workplace Environment in Skill Acquisition: Empirical Evidence from a Survey among Professional Tertiary Education and Training Students in Switzerland. In: Evidence-based HRM: A Global Forum for Empirical Scholarship. Vol. 5 Iss, p 1-34.)

Colorado

Skills & Training

Can Schools Fill the Gap?

Skill Importance



School

Ideal Learning Place

Work



According to CO companies, schools cannot fill the skill gap.
Work is the best place to learn the most important skills.

Most important factors for secondary & tertiary TVET programs

The **main features of VPET** in top performing countries are:

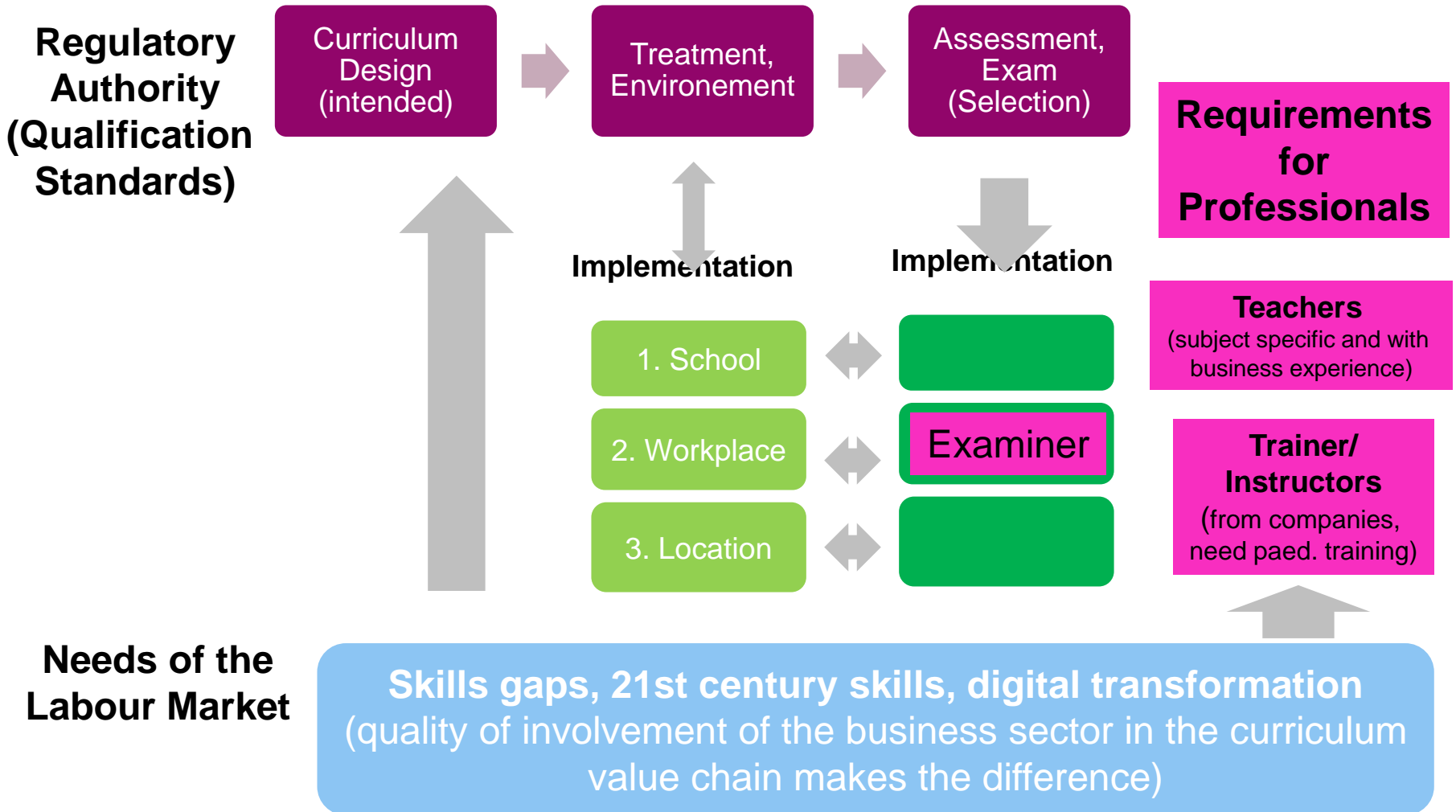
- **Employers are involved** in
 - setting **qualification standards**
 - deciding when an **update** needs to happen
 - setting **examination form**
- Students spend **most of their time in the workplace** instead of the classroom

**Most important factor:
Employers and their associations must be involved!**

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«Trainer’s ideal profile» depends on the chosen TVET approach



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The quality of learning has several influencing factors

1. Without substantial **employer engagement in all** sub-process of secondary & tertiary TVET it will be difficult to strengthen the quality of learning;
2. Students should be exposed to curriculum-structured **workplace training > 50% of their learning time** (21st century skills, digital transformation)
3. **Other normative decisions are important, e.i.**
 - Type and mode of governance
 - VPET Approach (state-controlled, market- or occupation-driven)
 - VPET system functions and its allocation to multilevel governance

Answers to guiding questions of the panel - I

No.	Topic	Answer
1	VET & PET	<ul style="list-style-type: none"> • Employers/business organization should be in the driver seat (defining qualification standards) • Tranperant qualification standards for each education level with progression routes to next level (entry ticket into labour market must be priority) • Career guidance and counselling
2	Assessment/evaluation	<p>It depends on</p> <ol style="list-style-type: none"> 1. the chosen VPET approach 2. the governance 3. learning locations and 4. especially involvement of workplace & trainer/ instructors from business sectors
3	Trainer's profil	<ul style="list-style-type: none"> • It depends on the chosen learning locations and the collaboration with the business sector. The better the business sector is engaged, the easier the problem with regard to skills gap of teachers can be solved.

Answers to guiding questions of the panel - II

No.	Topic	answer
4	Main factor for student's success	<ul style="list-style-type: none">• Workplace exposure > 50% of the program (only way to cope with 21st century skills and offering learning on best available technologies)
5	Tensions regarding qualification system in-line with quality assurance in TVET	<ul style="list-style-type: none">• Engaging the business sector so that companies can realize a business case out of the training• Output-oriented TVET governance approach

Thank you for your attention!

References

- **Bolli Th. and Renold, U. (2017):** Comparative Advantages of School and Workplace Environment in Skill Acquisition: Empirical Evidence from a Survey among Professional Tertiary Education and Training Students in Switzerland. In: Evidence-based HRM: A Global Forum for Empirical Scholarship. Vol. 5 Iss, p 1-34.
- **Egg, M. and U. Renold (2015):** The Swiss Vocational Education and Training System: What Can Spain Learn from Switzerland?, KOF Working Papers No. 383, June, Zurich.
- **Renold, U., Caves, K., Bolli, Th., Bürgi, J. (2017).** Training for Growth: Skills shortage and companies' willingness to train in Colorado. KOF Study, No. XX, Zürich.
- **Renold, U., K. Caves, Th. Bolli, J. Bürgi (2016):** From bright spots to a system: Measuring education-employment linkage in Colorado career and technical education, KOF Studies No. 432, Zürich.
- **Renold, U., T. Bolli, J. Bürgi, K. Caves, M. Egg, J. Kemper and L. Rageth (2016):** Feasibility Study for a Curriculum Comparison in Vocational Education and Training, Education-Employment-Linkage Index, KOF Studies, No. 80, Zurich, July.
- **Renold, U., T. Bolli, K. Caves, L. Rageth, V. Agarwal and F. Pusterla (2015):** Feasibility Study for a Curriculum Comparison in Vocational Education and Training, KOF Studies, 70, Zurich, November 2015.
- **Renold, U., T. Bolli, M. Egg and F. Pusterla (2014):** On the Multiple Dimensions of Youth Labour Markets, KOF Studies, 51, Zurich, August 2014.
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