Curriculum Development

the Austrian approach

ibw
Institut für Bildungsforschung der Wirtschaft

RESEARCH AND DEVELOPMENT

EDUCATION AND TRAINING
SKILL NEEDS OF BUSINESSES
QUALIFICATIONS

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Developing Occupational Standards

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our areas of expertise

- dual vocational and training (apprenticeship)
- higher vocational education and training
- school education
- tertiary education
- continuing vocational education and training
- the labour market and qualification requirements
- international vocational education and training
- career guidance
- school-business platform
- international vocational education and training

my expertise

- research and development in the field of the teaching of business skills as a cross-sectional subject within selected occupational fields
- clearing and consulting in the creation of didactic teaching materials, guidelines as well as final or qualification examinations
- qualification of IVET trainers, trainers and examiners as part of training courses and workshops in Austria
- international consulting in the provision of vocational qualifications, in particular in the fields of curriculum development, know-how transfer, initial and continuing education and training systems, as well as IVET trainer and examiner qualifications

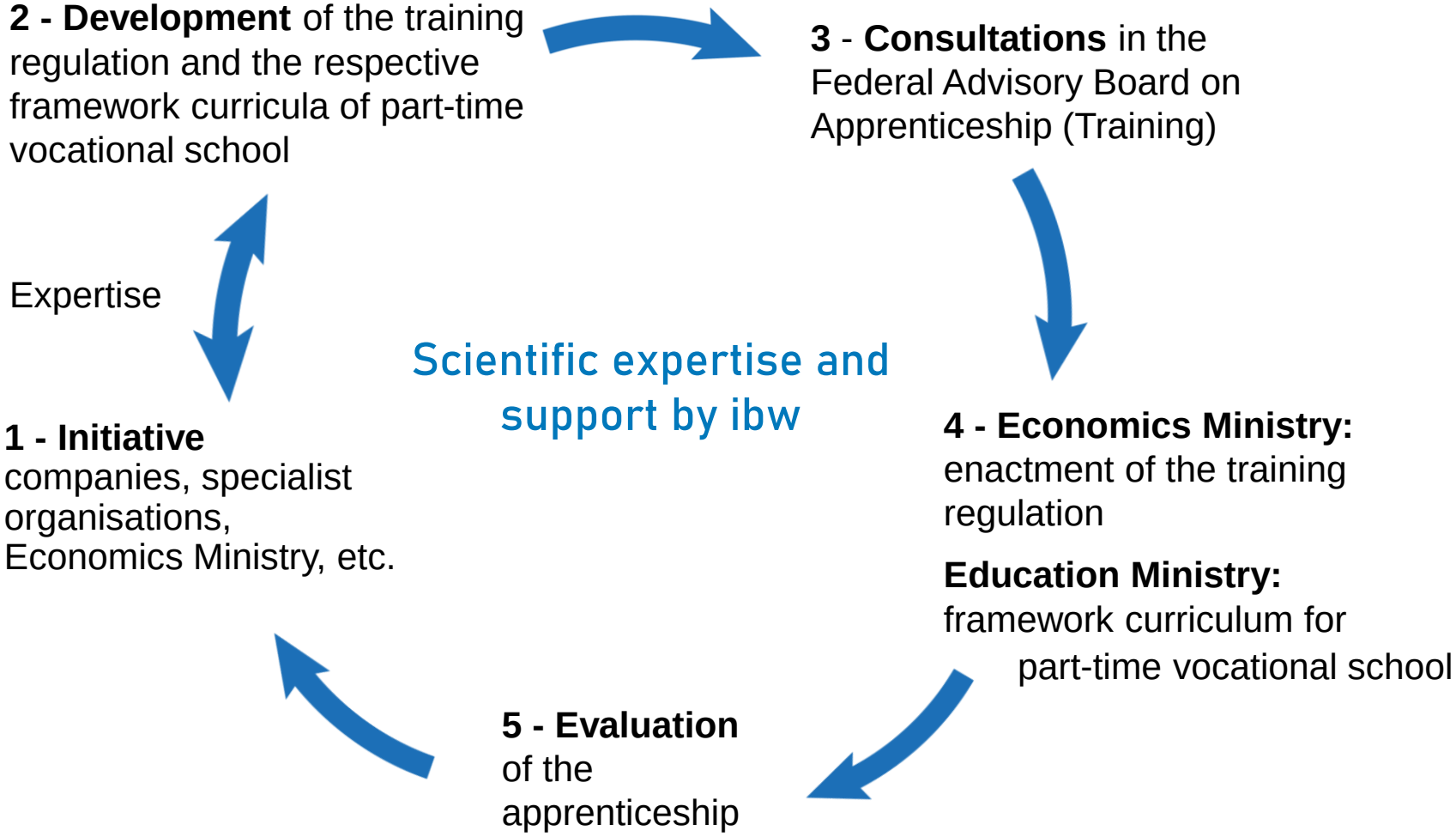
Quality in apprenticeship

Job profile development in a vocational field

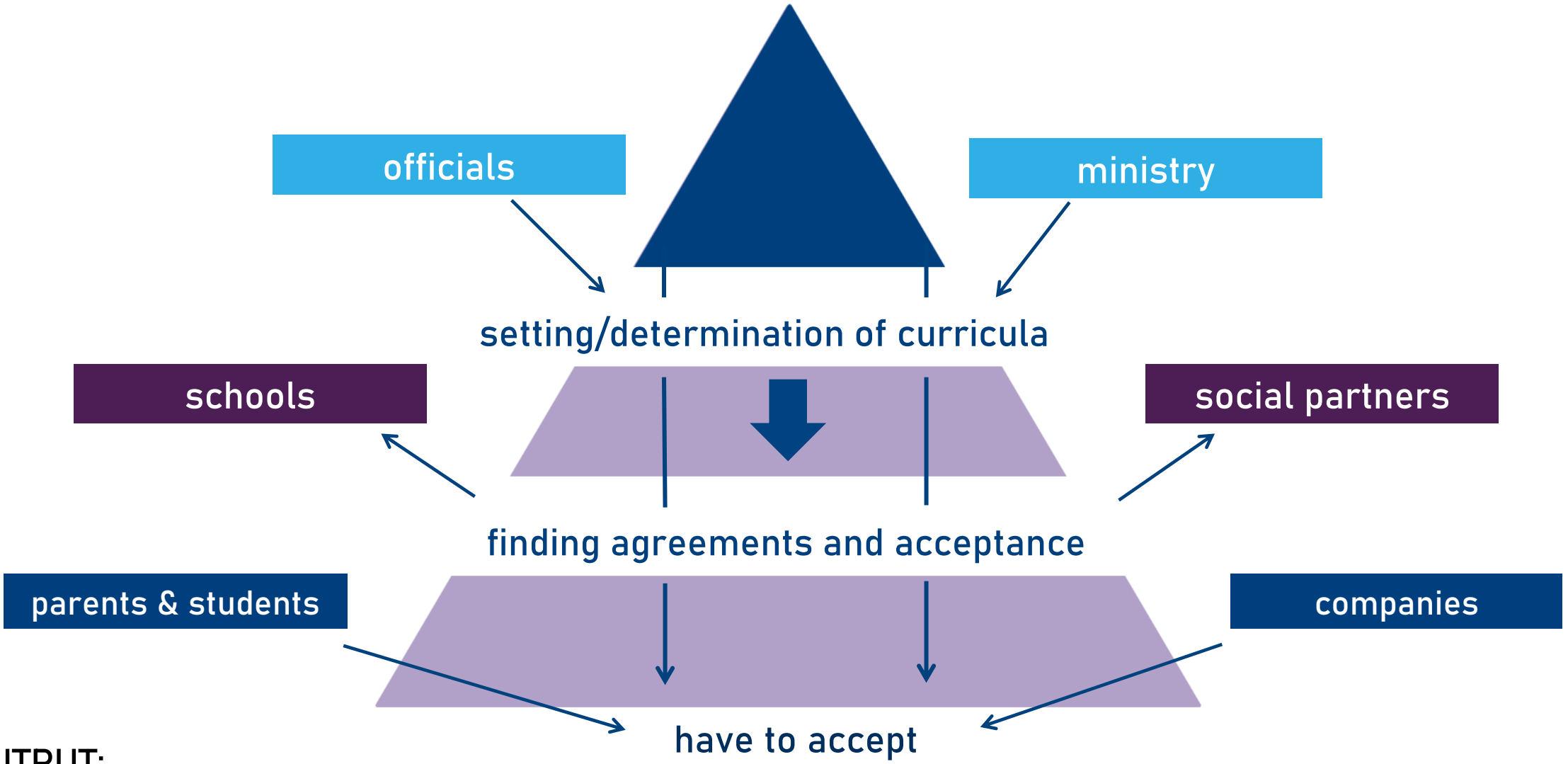
ibw

Austrian approach

Development of new apprenticeships/update of existing apprenticeships

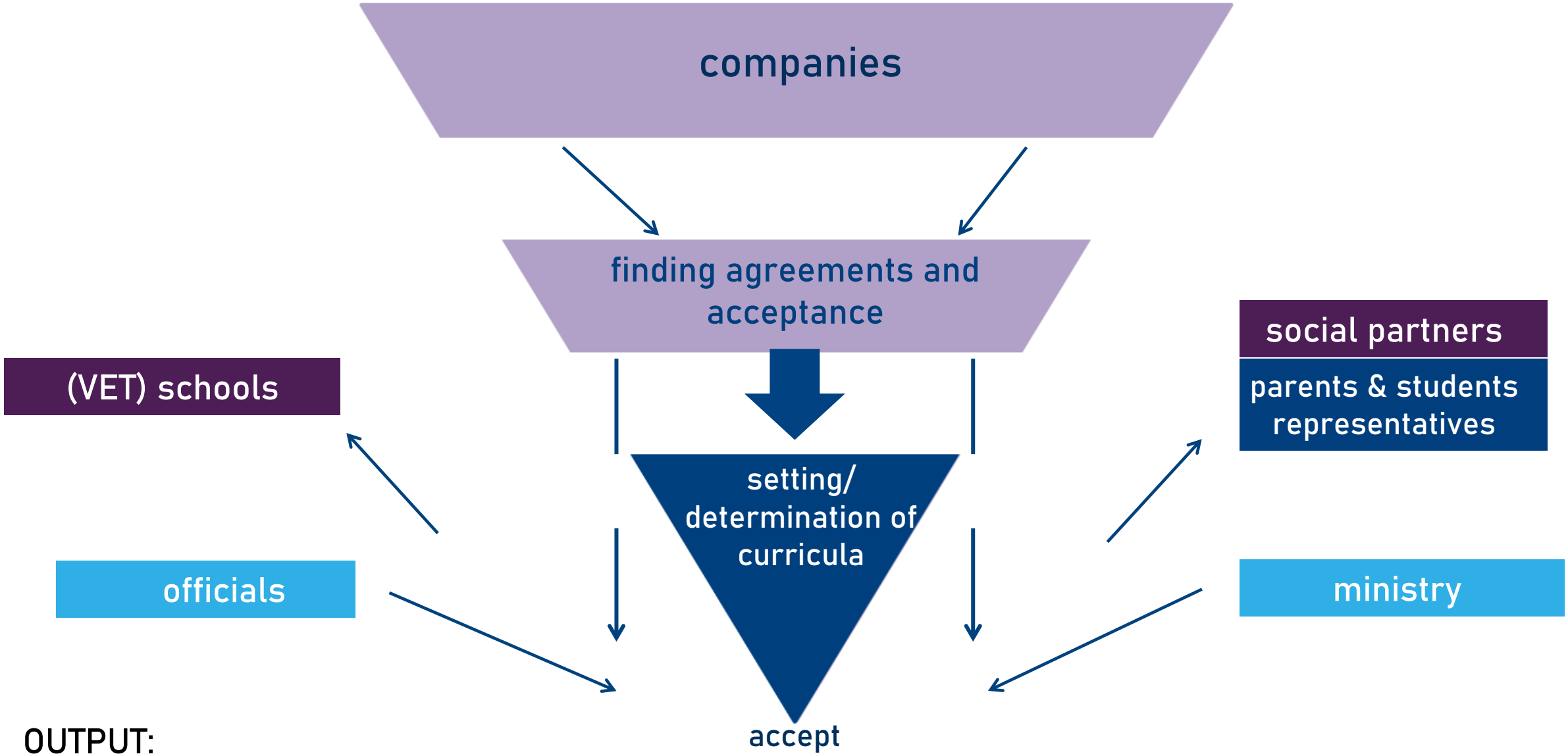


Bad practice – Top down strategy



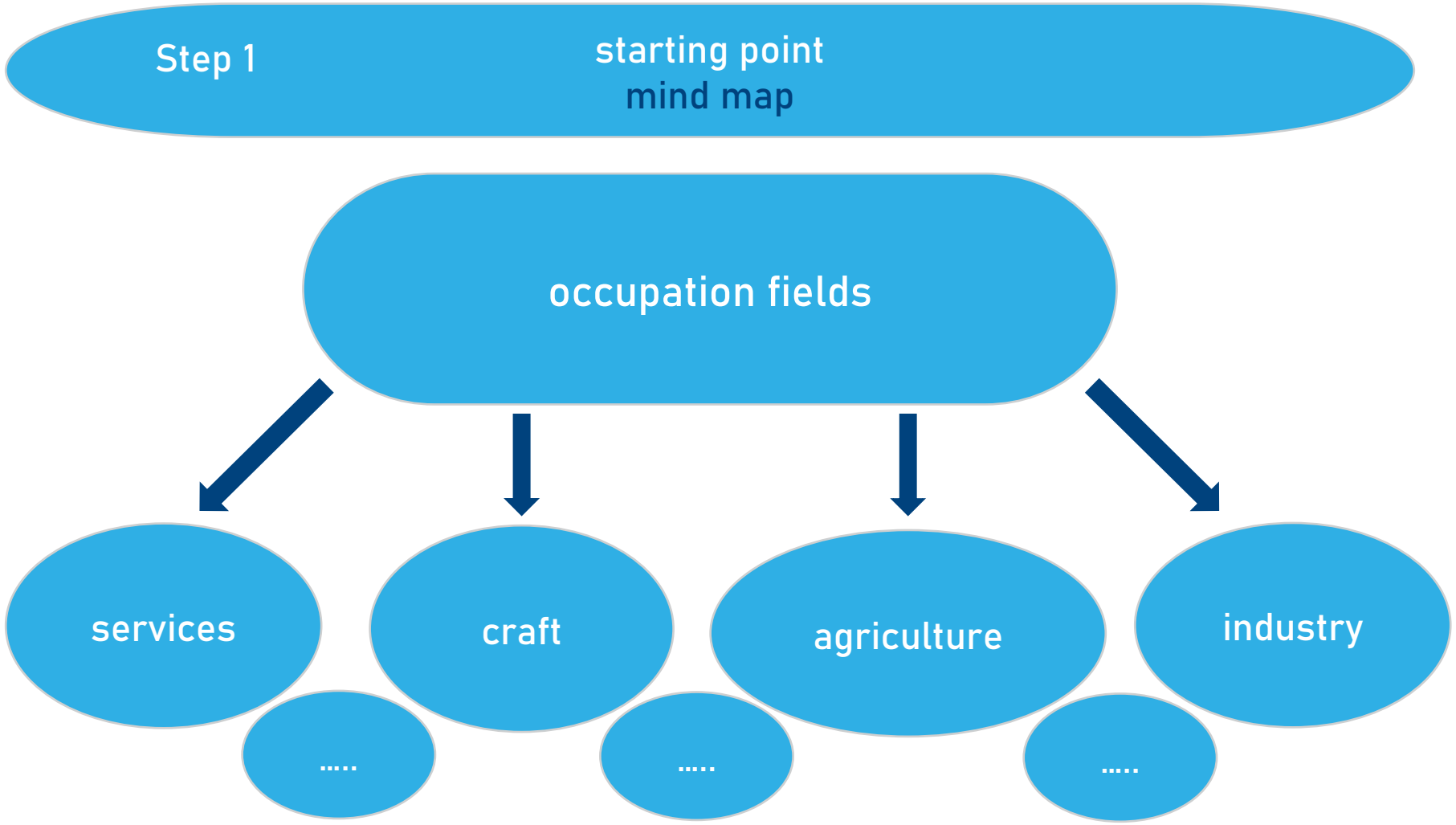
OUTPUT:
No “consumer” acceptance (parents & students are not willing to join, companies are not willing to offer)

Better practice – Top down strategy

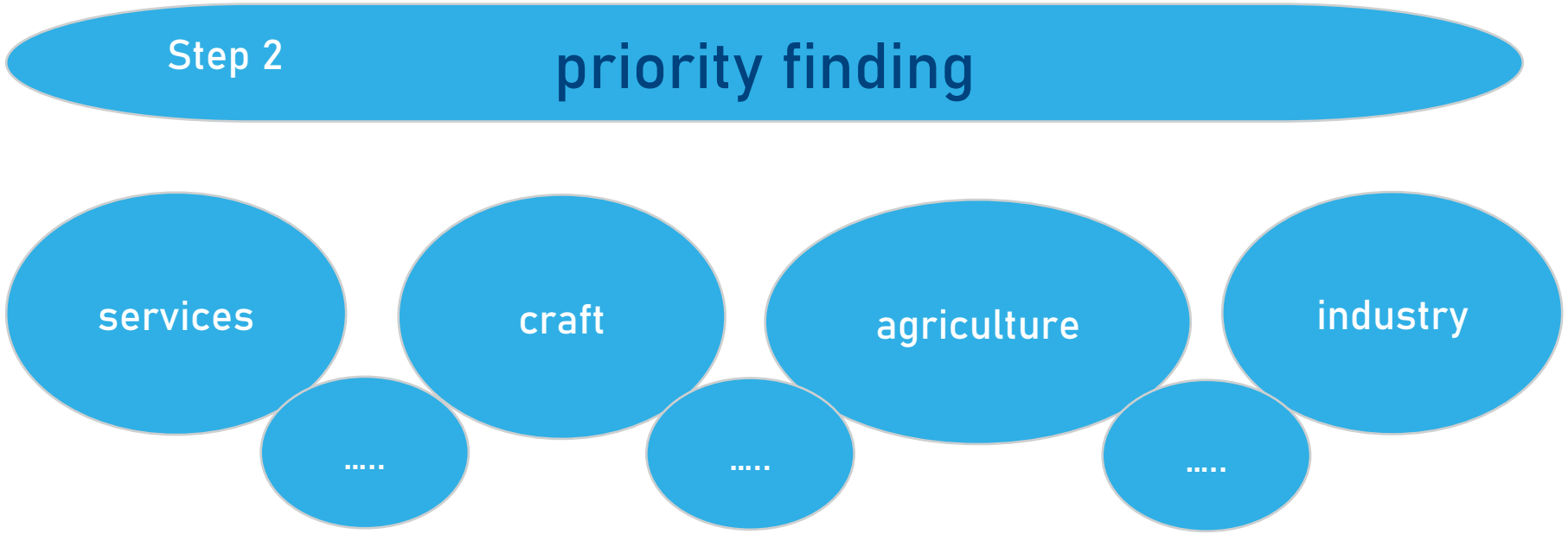


OUTPUT:
Training regulations close to company needs.

Better practice – strategy

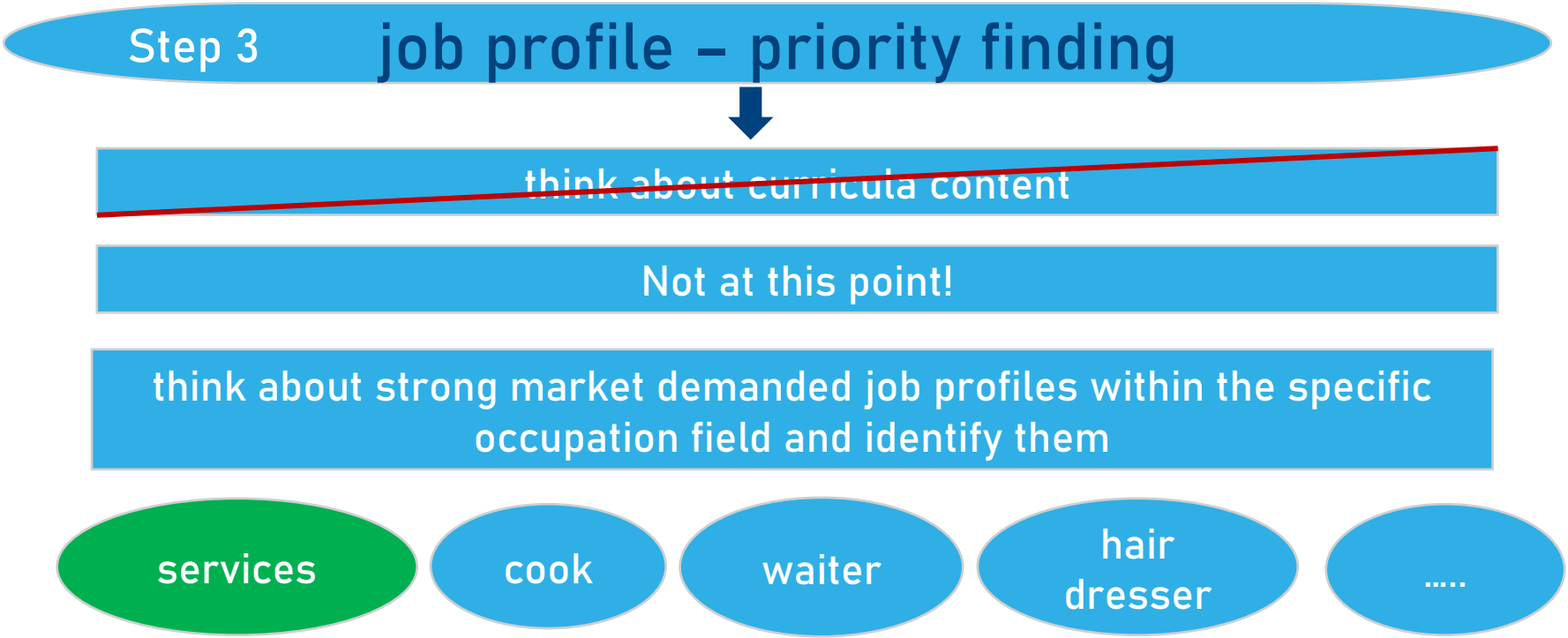


Better practice – strategy



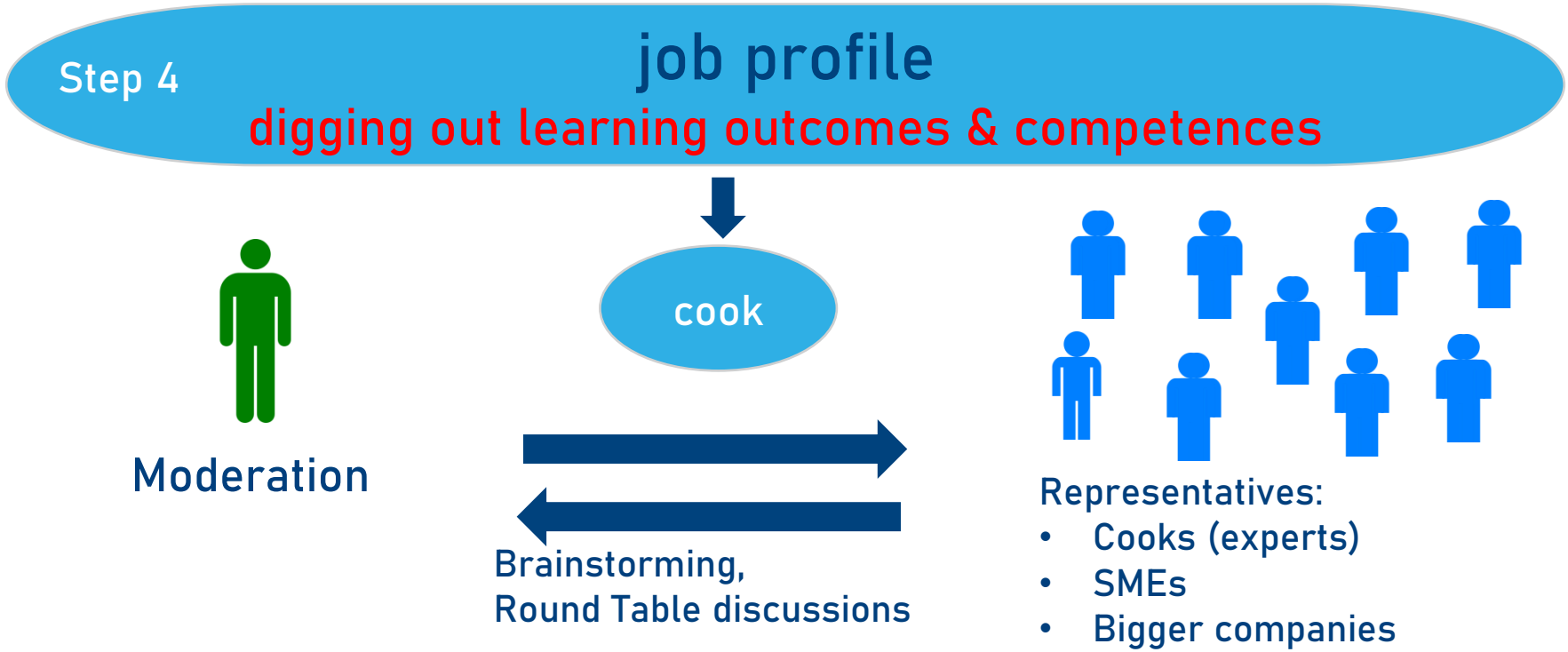
Who:
independent research institute
How:
economy analysis, vacancies notified, identifying emerging business sectors
Output:
formal report with recommendations

Better practice – strategy



Who:
independent research institute or ministry (partners of ministry)
How:
Business reports, survey and face-to-face interviews
Output:
report with new aspect and POTENTIAL PARTNERS

Better practice – strategy

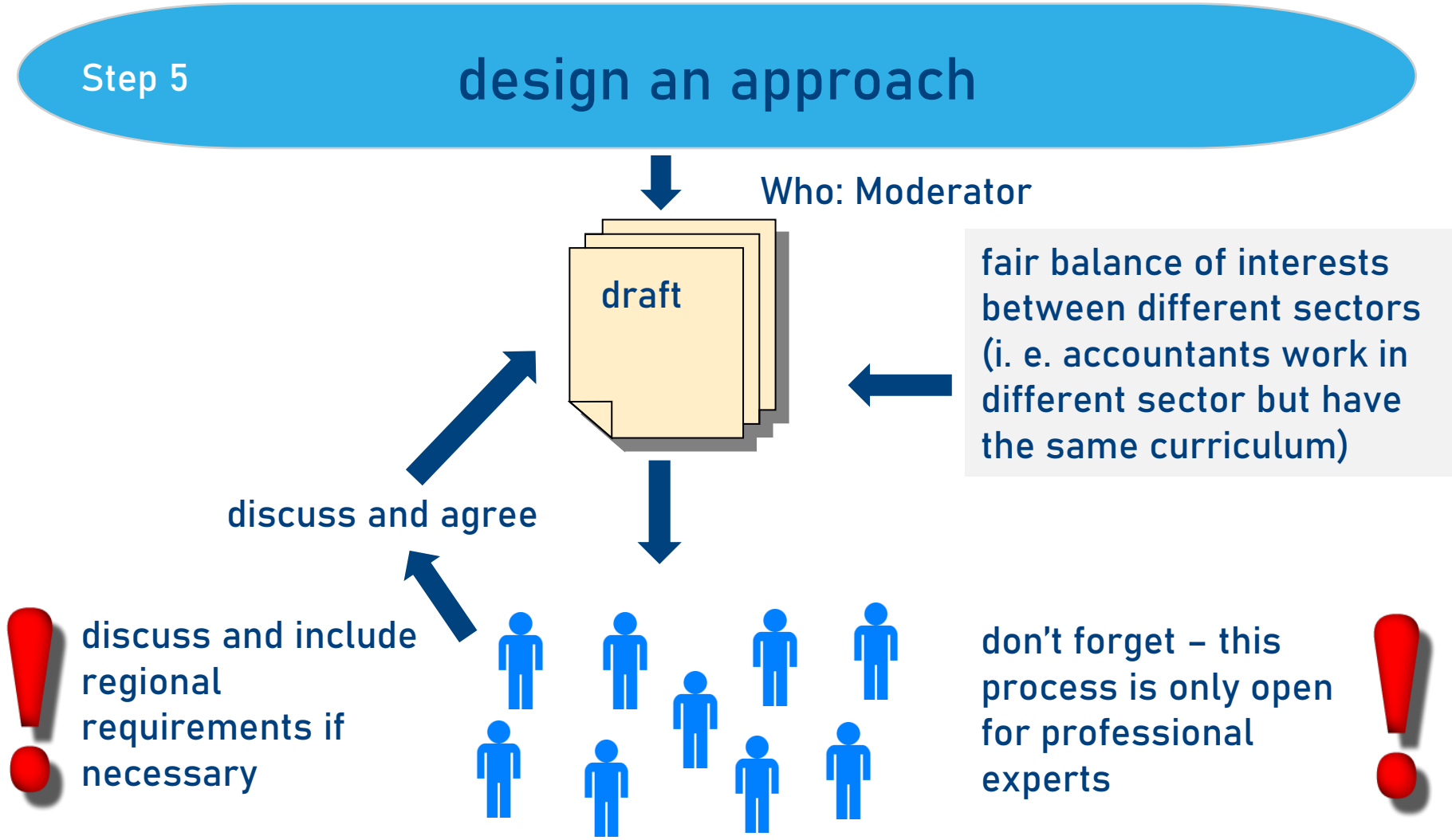


Moderation:
Responsible for documentation and structuring the outcome (wording) – competence profile
Representatives:
Input deliverers – responsible for designing the input – POTENTIAL PARTNERS

Two pillars for the development of new apprenticeships/update of existing apprenticeships

new Approach	competence- and learning outcome are fundamentals for the design of training profiles

Better practice – strategy



Better practice – strategy

Step 6 presentation of the draft

Who: Moderator

to different interest groups

representatives of ministries/ social partners

representatives of schools and school partners

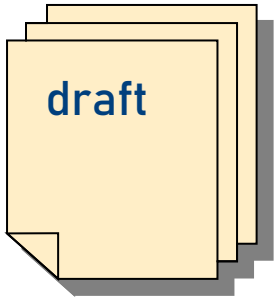
representatives of youth organisations

....

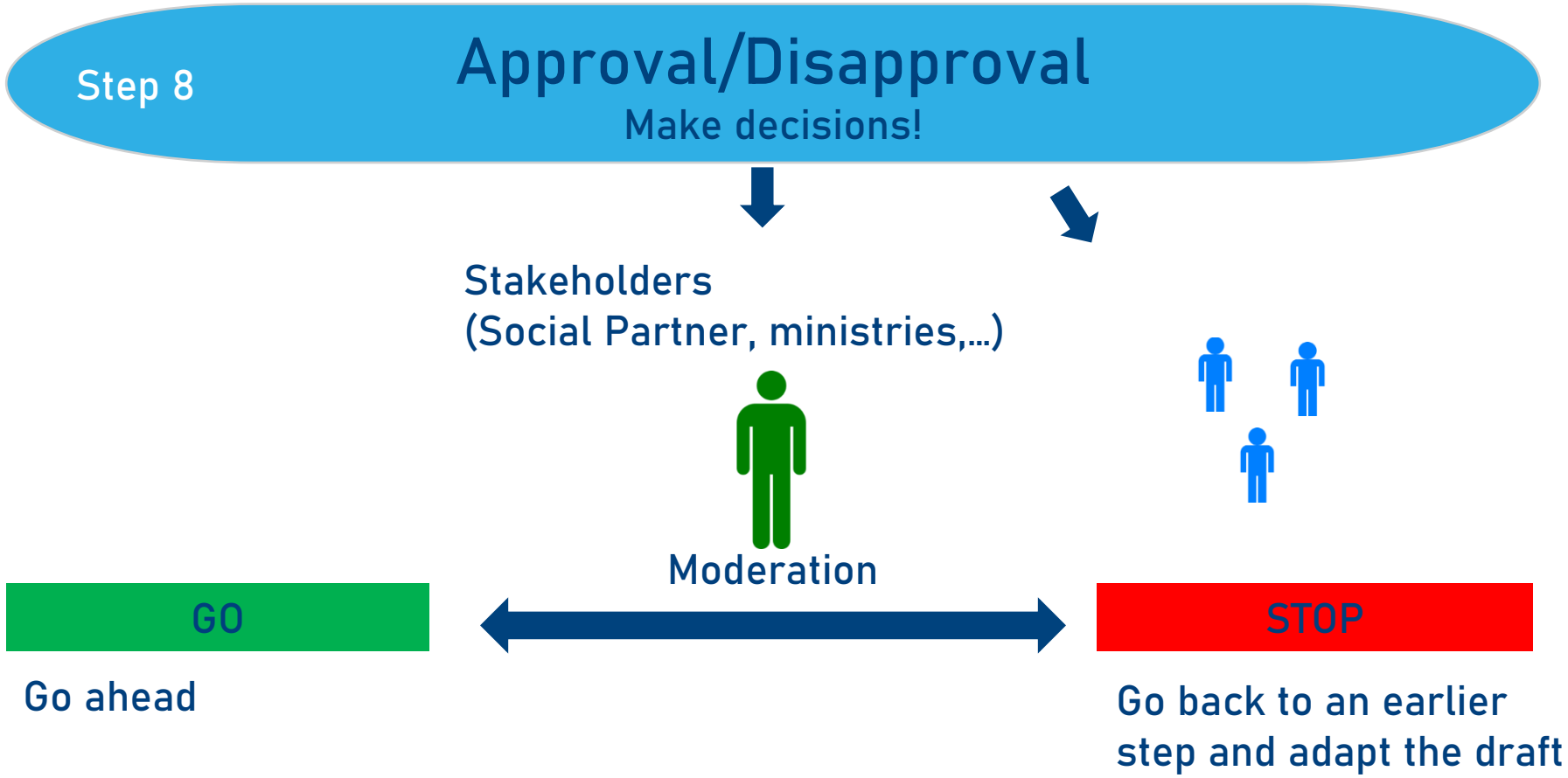
Better practice – strategy

Step 7 harmonization of the draft

Who: Moderator



Better practice – strategy



Better practice – strategy

Step 8

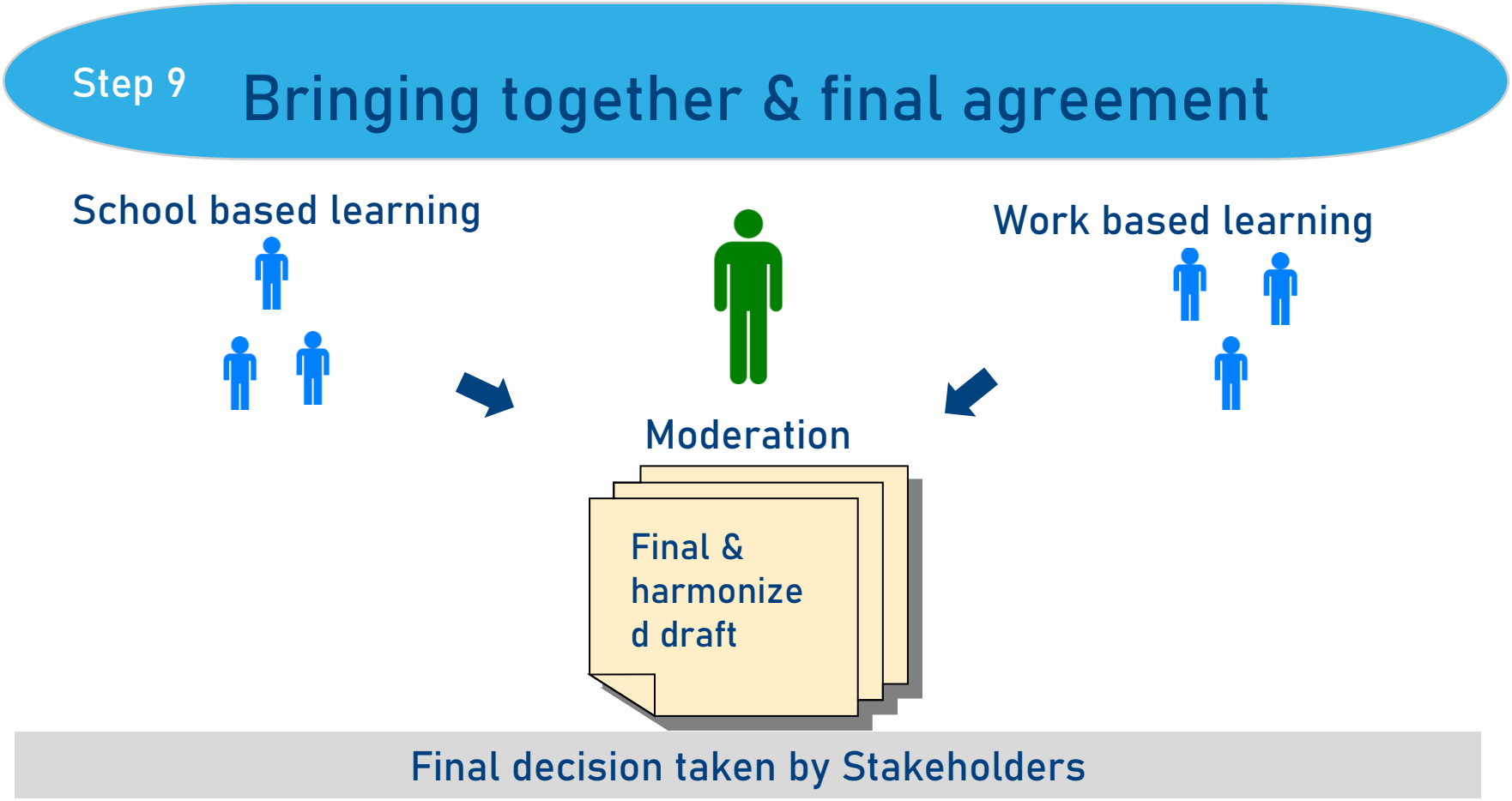
splitting up the responsibilities

Who is doing what?

Output:
School curricula => learning outcomes that can be thought in schools
Work curricula => learning outcomes during practical training

Curricula are harmonized in terms of duration of training, content and year of training

Better practice – strategy



Output:
Formal agreed training regulations

Better practice – strategy

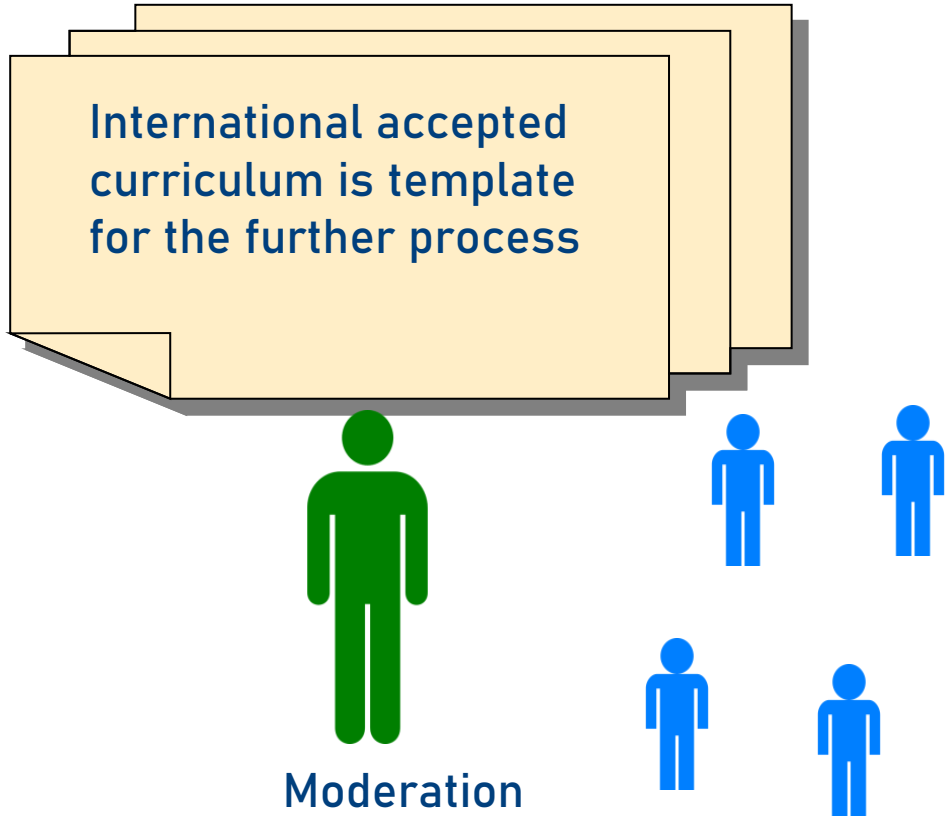
Practice-oriented training aid

- Translation of the regulation text into a practical language
- demonstration of learning results
- Tips and examples of best practice from training companies

Step 10 developing of training guidelines

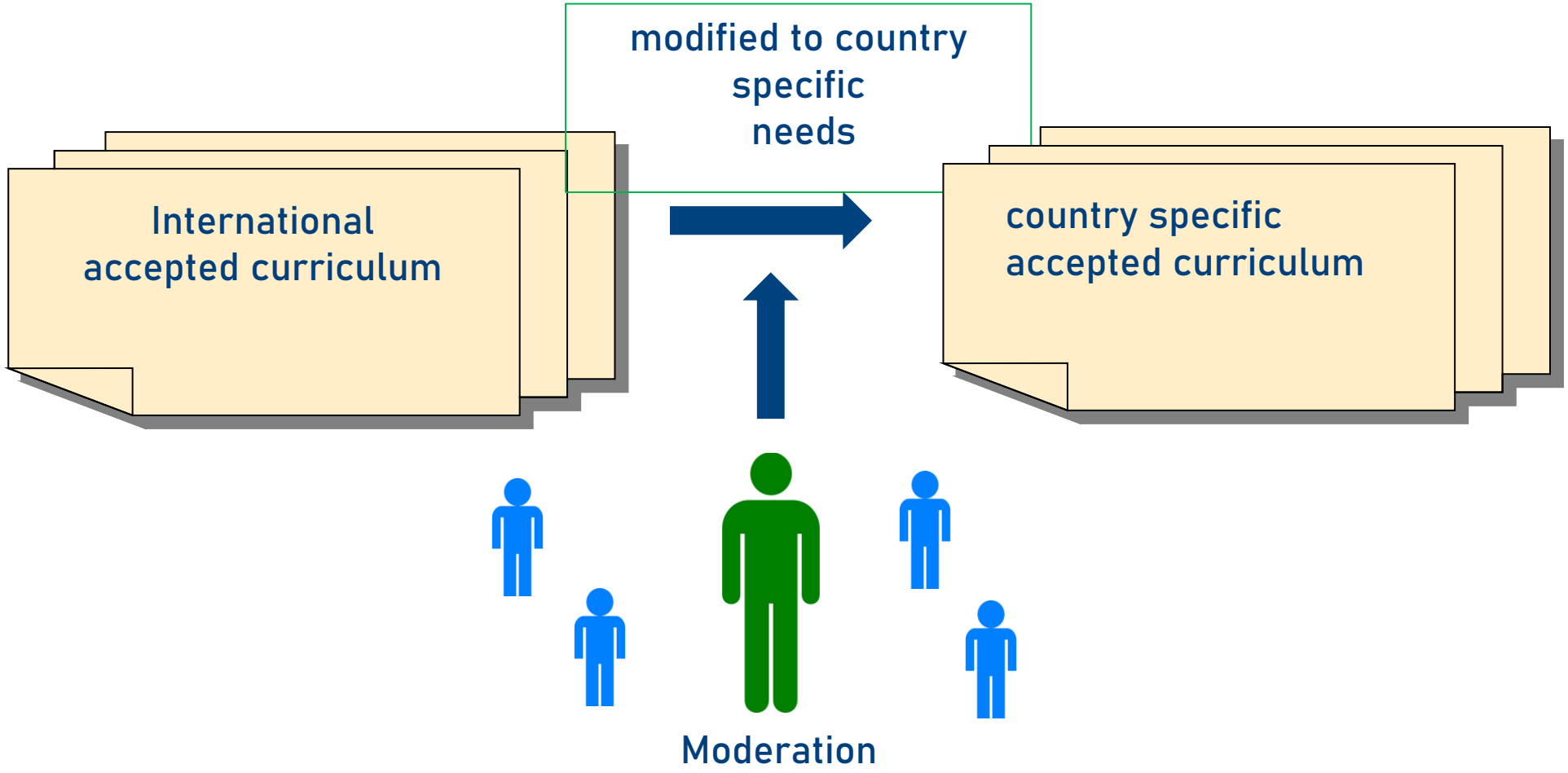
Digression – pragmatic approach

Prerequisite:
Decision about occupational fields and job profiles are already taken



representatives of professional experts conduct discourses on the curriculum

Digression – pragmatic approach



Digression – Example for better understandig

1st skill area

working in the professional environment

In the professional environment, the culinary professional carries out tasks with a high degree of self, social and methodical competence.

They articulate their needs and interests appropriately, make decisions independently and develop solutions……

DURATION 1st to 3rd

1st year

Skill area (1 of 7)

Aims of the skill area

⇨ At the end of the training (after three years) it must be ensured that the trainee is able to fulfil the described tasks independently.

Duration

⇨ Recommended period of implementation

=> any time within the three-year period
=> in the 1st year of training

Digression – Example for better understandig

1.1.	present the essential features of the hospitality industry.
1.2.	present the range of services and the key data of the training company.
1.3.	operate within the company structure and process organization.
1.4.	engage in targeted-group oriented conversations with the instructors, supervisors, colleagues, suppliers, etc. using technical terms. The trainee can express any concerns clearly and with self-confidence.

Vocational competences

⇨ Detailed listing of competencies that have to be trained to reach the aims of the skills area.

available in: Detailed Version

pos.	skill area	
1.	**Working in the professional environment**	
The trainee can ...		✓
	DURATION 1st to 3rd	
1.1.	present the essential features of the hospitality industry.	
	Ⓒ -	
	Ⓐ - give an overview of the tourism industry. - describe die industry trends. - describe the market position of the organisation he/she is learning in from the perspective of the industry.	

Checklist

⇨ Each vocational competency can be ticked off. Trainers can personalize the curriculum as a documentation tool for each trainee.

pos.	skill area	
2.	**Safe, hygienic and sustainable work**	
The trainee can ...		✓
	DURATION 1st to 3rd	
2.1.	ensure their own personal safety and health in the workplace and take preventive measures to avoid accidents. In particular, the trainee can:	
	Ⓒ - meet international standards. - take local legal requirements into consideration (e.g. intl.: cables must come from above vs. local cables must have plastic covers). - wear workwear garments in accordance with hygiene standards (e. g. shoes, wearing jewellery etc.). - handle switches/plugs (switch + main).	
	Ⓐ - follow the respective organisation's safety standards. - name persons who are appointed to work-place safety and describe their duties. - apply the principles of ergonomic working practices. - recognise and avoid hazards. - react correctly in cases of emergency. - apply devices and machines safely and in accordance to their uses.	

Interpretation

⇨ Each vocational position follows experts' interpretation in order to make the competences more practical.

Ⓒ => recommendations made by chefs of the Chinese tourism industry

Ⓐ => recommendations made by chefs of the Austrian tourism industry

note: No recommendations have been made for empty entry fields.

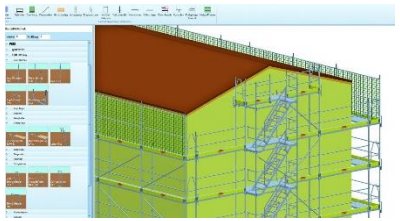
Excursion on Digital Content in Curricula

ibw

What is digital competence?

- Almost every employee is a digital employee but
- the requirements for digital skills vary according to occupation
- Example building- construction:

draughtsman	brick layer	electrician	plumber
graphic software Calculation programmes	Lasers for space calculations digital cameras for documentation	multimeter digital voltage detector	digital measuring instruments Sewer Pipe inspection cameras etc.



general digital communication tools (e-mail, smart phones etc.)

in the Dual-VET Context

DIGITAL USER:

objective: fit for dealing with digital tools and processes

job profiles:

- motor vehicle engineering
- restaurant salesman
- cook
- electrician
- brick layer

Section Training Regulation – Insurance Salesman

3. Kompetenzbereich: Digitales Arbeiten (3.3 bis 3.6 schließen gegebenenfalls auch entsprechende analoge Anwendungen mit ein)	
3.1 Software und weitere digitale Anwendungen	
Er/Sie kann…	
3.1.1	Software bzw. Apps für Textverarbeitung, Tabellenkalkulation, Präsentationserstellung, Kommunikation sowie Datenbanken und weitere digitale Anwendungen kompetent verwenden (zB Kundenmanagement, Terminmanagement).
3.1.2	die für eine auszuführende Aufgabe am besten geeignete betriebliche Software bzw. digitale Anwendung auswählen.
3.1.3	Inhalte unter Einhaltung der betriebsinternen Vorgaben selbst entwickeln bzw. vorhandene Inhalte editieren und zielgruppengerecht aufbereiten (zB Texte, Kalkulationen, Präsentationen unter Berücksichtigung des Corporate Designs erstellen).
3.1.4	Daten aufbereiten (zB Statistiken und Diagramme erstellen).
3.1.5	mit betrieblichen Datenbanken arbeiten (zB Daten erfassen, löschen, aktualisieren).
3.1.6	Inhalte aus verschiedenen Datenquellen beschaffen und zusammenfügen.
3.1.7	Probleme im Umgang mit Software und digitalen Anwendungen lösen (zB Hilfefunktion nutzen, im Internet bzw. Intranet nach Problemlösungen recherchieren).
3.2 Digitale Kommunikation	
Er/Sie kann…	
3.2.1	ein breites Spektrum an Kommunikationsformen verwenden (zB E-Mail, Telefon, Videokonferenz, Social Media).
3.2.2	eine geeignete Kommunikationsform anforderungsbezogen auswählen.
3.2.3	verantwortungsbewusst und unter Einhaltung der gesetzlichen und betrieblichen Vorgaben in sozialen Netzwerken agieren.
3.3 Datei- und Ablageorganisation	
Er/Sie kann…	
3.3.1	sich in der betrieblichen Datei- bzw. Ablagestruktur zurechtfinden (zB gespeicherte Dateien finden).
3.3.2	in der betrieblichen Datei- bzw. Ablagestruktur arbeiten und dabei die Grundregeln eines effizienten Dateimanagements berücksichtigen (zB Ordner anlegen bzw. löschen, Vergabe von Dateinamen).
3.3.3	sich an die betrieblichen Vorgaben zur Datenanwendung und Datenspeicherung halten.
3.3.4	Ordner und Dateien unter Einhaltung der betrieblichen Vorgaben teilen (zB unter Nutzung von VPN, Intranet, Extranet).
3.4 Informationssuche und -beschaffung	
Er/Sie kann…	
3.4.1	Suchmaschinen für die Online-Recherche effizient (zB unter Einsatz entsprechender Suchtechniken) nutzen.
3.4.2	nach gespeicherten Dateien suchen.
3.4.3	in bestehenden Dateien relevante Informationen suchen.
3.4.4	in Datenbankanwendungen Daten filtern.

→ competence field: digital working

→ He/She can select the most suitable operational software or application for a task to be performed.

→ He/She can use a wide range of forms of communication (e-mail, telephone, video conferencing, social media).

→ He/She can efficiently use search engines for online research.

in the Dual Context

DIGITAL DEVELOPER

objective: fit for developing digital applications

job profiles:

- application development
- coding
- media expert specialising in web development
- retail trade services specialising in digital sales

Section Training Regulation – Insurance Salesman

BUNDESGESETZBLATT

FÜR DIE REPUBLIK ÖSTERREICH

Jahrgang 2018 **Ausgegeben am 30. August 2018** **Teil II**

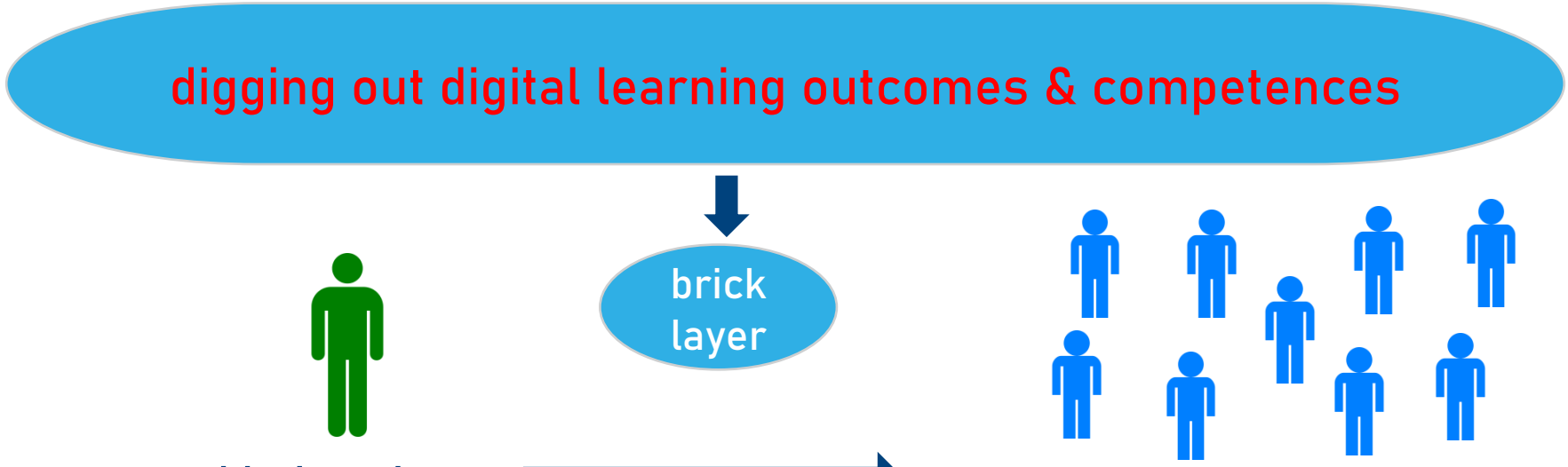
223. Verordnung: **Applikationsentwicklung – Coding-Ausbildungsordnung**

Pos.	1. Lehrjahr	2. Lehrjahr	3. Lehrjahr	4. Lehrjahr
6.2	Mitwirken beim Identifizieren und Analysieren von Daten und beim Entwickeln von geeigneten Datenmodellen sowie beim Formulieren von Testdaten		Identifizieren und Analysieren von Daten und Entwickeln von geeigneten Datenmodellen sowie Formulieren von Testdaten	–
6.3	Kenntnis der Abläufe und Prozessschritte (Auswählen des Datenbankmanagementsystems, Erstellen des physischen Modells, Performance- und Stresstests, Datensicherheit, Datenschutz, Datenverschlüsselung – Kryptografie, Datenmigration) zum Umsetzen von Datenmodellen in eine Datenbank			
6.4	Mitwirken beim Umsetzen von Datenmodellen in eine Datenbank		Umsetzen von Datenmodellen in eine Datenbank	
6.5	Kenntnis der Abläufe und Prozessschritte (Zugriffschnittstelle, Zugriffstechnologie, Transaktionskonzept, Programmierung, Testreihen, Benutzerabnahmetest/Benutzerinnenabnahmetest, Ergebnisprüfung) zum Entwickeln von Zugriffen auf eine Datenbank mit geeigneten Abfragesprachen			
6.6	Mitwirken beim Entwickeln von Zugriffen auf eine Datenbank mit geeigneten Abfragesprachen	Entwickeln von Zugriffen auf eine Datenbank mit geeigneten Abfragesprachen		–
7.	**Qualitäts- und Projektmanagement**			
7.1	Grundkenntnisse über Qualitätssicherung und Qualitätskontrolle		–	–
7.2	Kenntnis des betriebsspezifischen Qualitätsmanagements			
7.3	–	Mitwirken beim betriebsspezifischen Qualitätsmanagement		
7.4	Kenntnis der Wichtigkeit der Dokumentation aller ausgeführter Arbeiten und Tests gemäß betriebsspezifischen Qualitätsmanagement			
7.5	–	Dokumentieren aller ausgeführter Arbeiten und Tests gemäß betriebsspezifischen Qualitätsmanagement		

→ conversion of data models into a database

→ development of accesses to a database with suitable query language

How do we develop digital content in the curriculum?



Moderation:
Responsible for documentation and structuring the outcome (wording)

Representatives:
Input deliverers – responsible for developing the content

What questions are relevant for the discussion?

- Which digital tools, instruments, software solutions etc. are used in your profession at the moment?

- Which digital tools will be relevant in the future?

- What does this imply for competences needed?

Digital Natives – Generation Z

= the digitalization of everyday life is already completely integrated into their lives

What can we expect?

- basic user knowledge (computers, software, mobile phones, social media etc.)
- high affinity and willingness to learn and develop digital skills
- good apprehension

What has to be trained?

- use of specialised user programmes and digital hardware
- critical assessment of sources
- responsible use of digital applications
- efficient work attitude and digital research methods

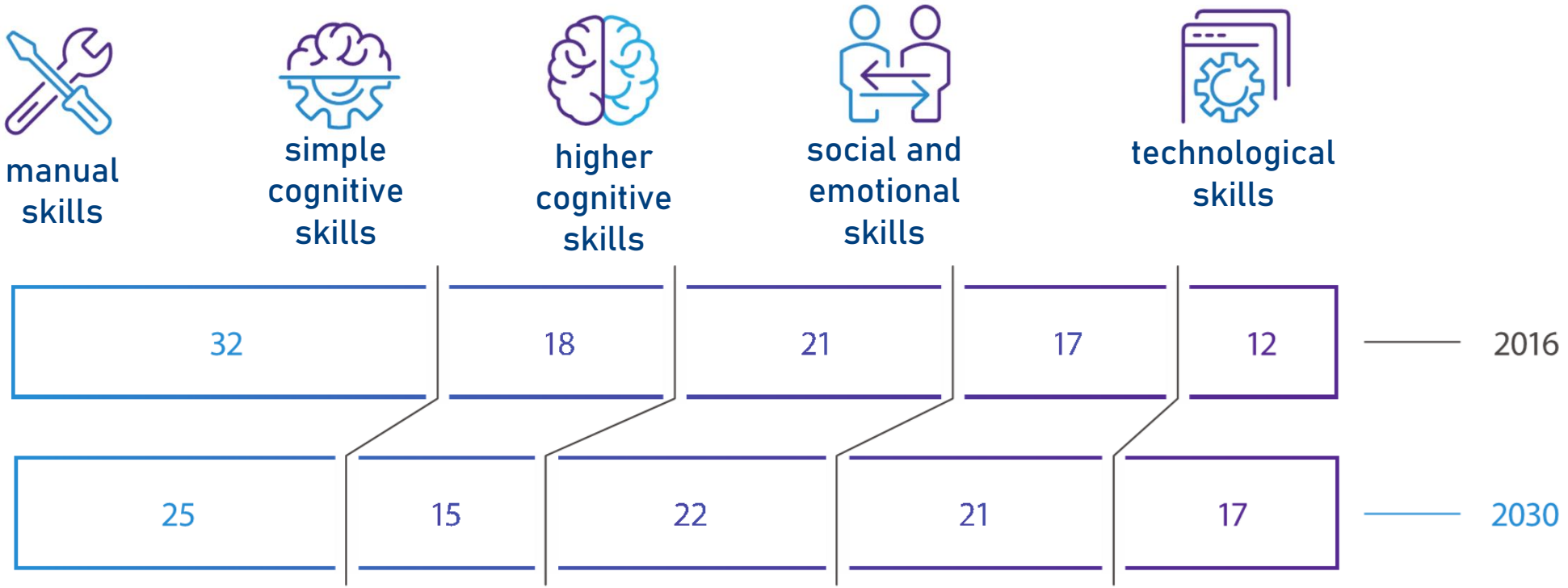
How to train digital skills at the company?

- Companies are willing to invest in digital tools if they are essential for order fulfillment or to strengthen their efficiency/quality (return on investment).

- The apprentice is integrated in the productive process.

- Digital competences are trained just like other skills, tools and
- competences by the method of learning by doing.
- (Requirement: Digital tools are in use at the learning site)

Until 2030, strong changes in the Austrian skills demand are expected



Required skills as percentage of man hours in Austria

- simple physical and cognitive skills will slightly decrease until 2030, but still remain the biggest factor
- at the same time interpersonal tasks and social skills and the demand for digital competences in all jobs will increase

Our Publications

- ibw-research reports

- development tools

- <u>newsletter to particular target groups:</u>

ibw research brief

NEWSletter Berufsinformation

Qualität in der Lehre

ibw aktuell

NEWSLETTER ARBEITSGEMEINSCHAFT WIRTSCHAFT UND SCHULE AWS

Usefull information

	Links
ibw - Institute for Research on Qualifications and Training of the Austrian Economy	www.ibw.at
Career guidance system of the economic chambers	www.bic.at
For trainers: info and material	www.ausbilder.at
Info on aids for the selection process	www.auswahlhilfe.at
Quality in apprenticeship: tools and projects	www.qualitaet-lehre.at

Newsletter:

NEWSletter Berufsinformation

Interesting themes and current important dates in the area of career guidance (appears 6 x per year)

Info and downloads connected with Apprenticeship (appears 4 x per year)