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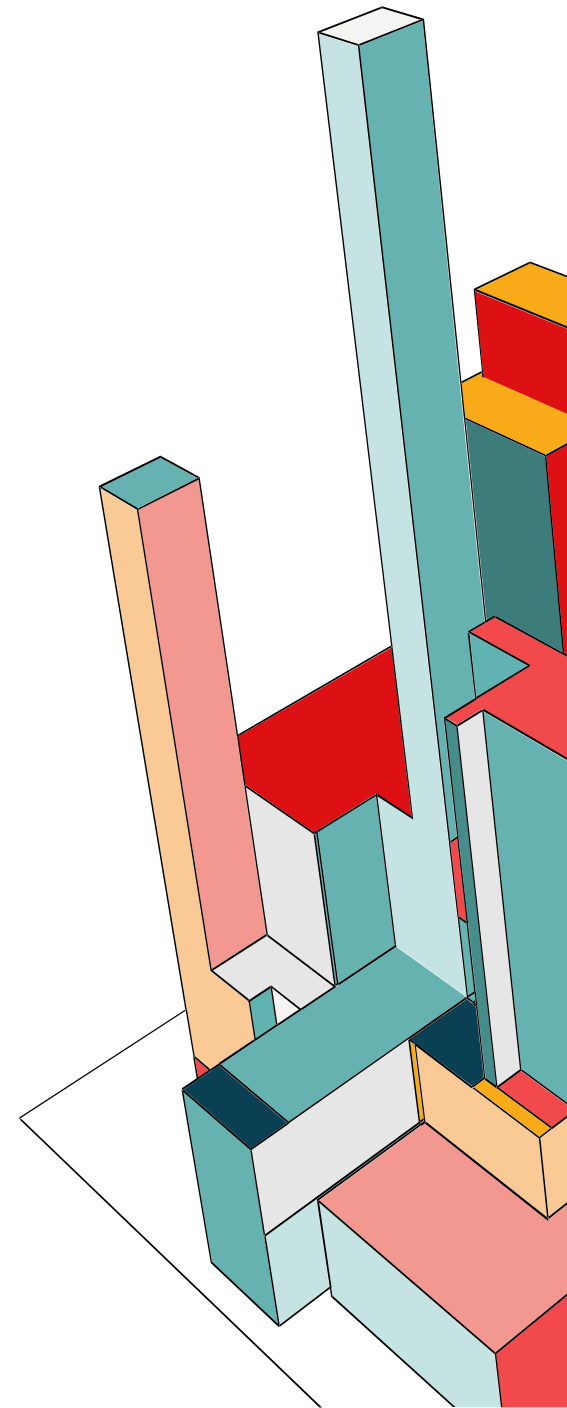
# APPRENTICESHIP DEGREE

Guideline to Good Practices for Bachelor's  
Degree Apprenticeship Implementation

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Guideline to Good Practices for Bachelor's  
Degree Apprenticeship Implementation

Department of Higher Education  
Ministry of Higher Education



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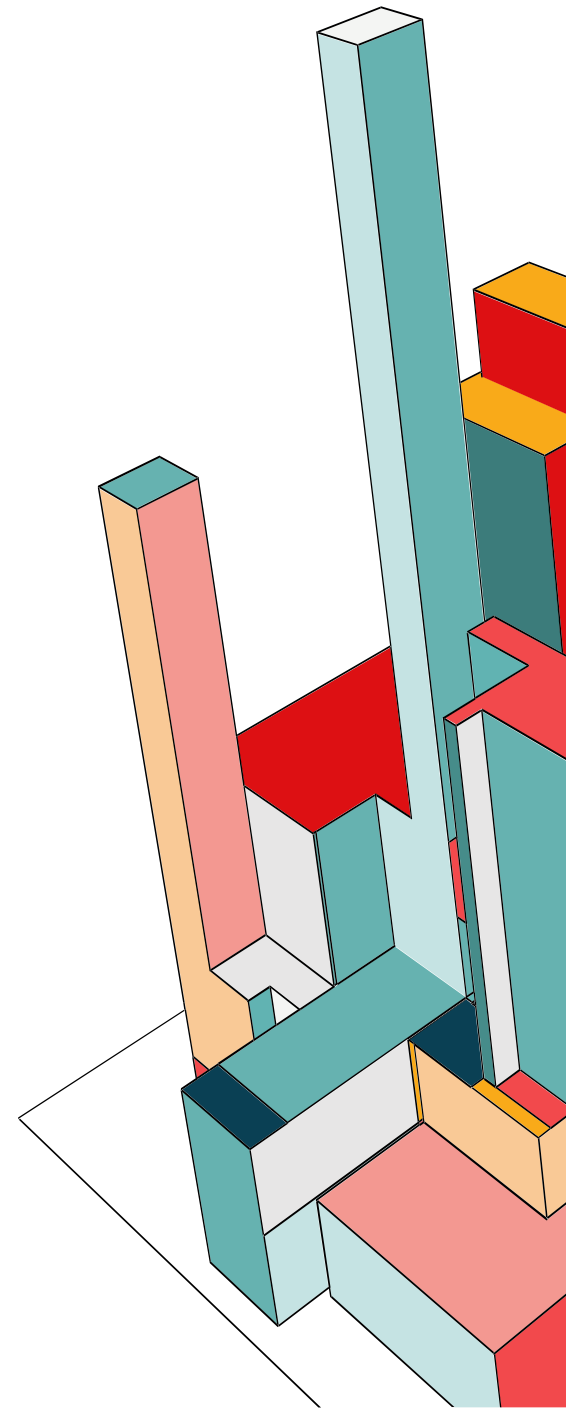
Apprenticeship Degree: Guideline to Good Practices for Bachelor's Degree Apprenticeship Implementation

Perpustakaan Negara Malaysia.

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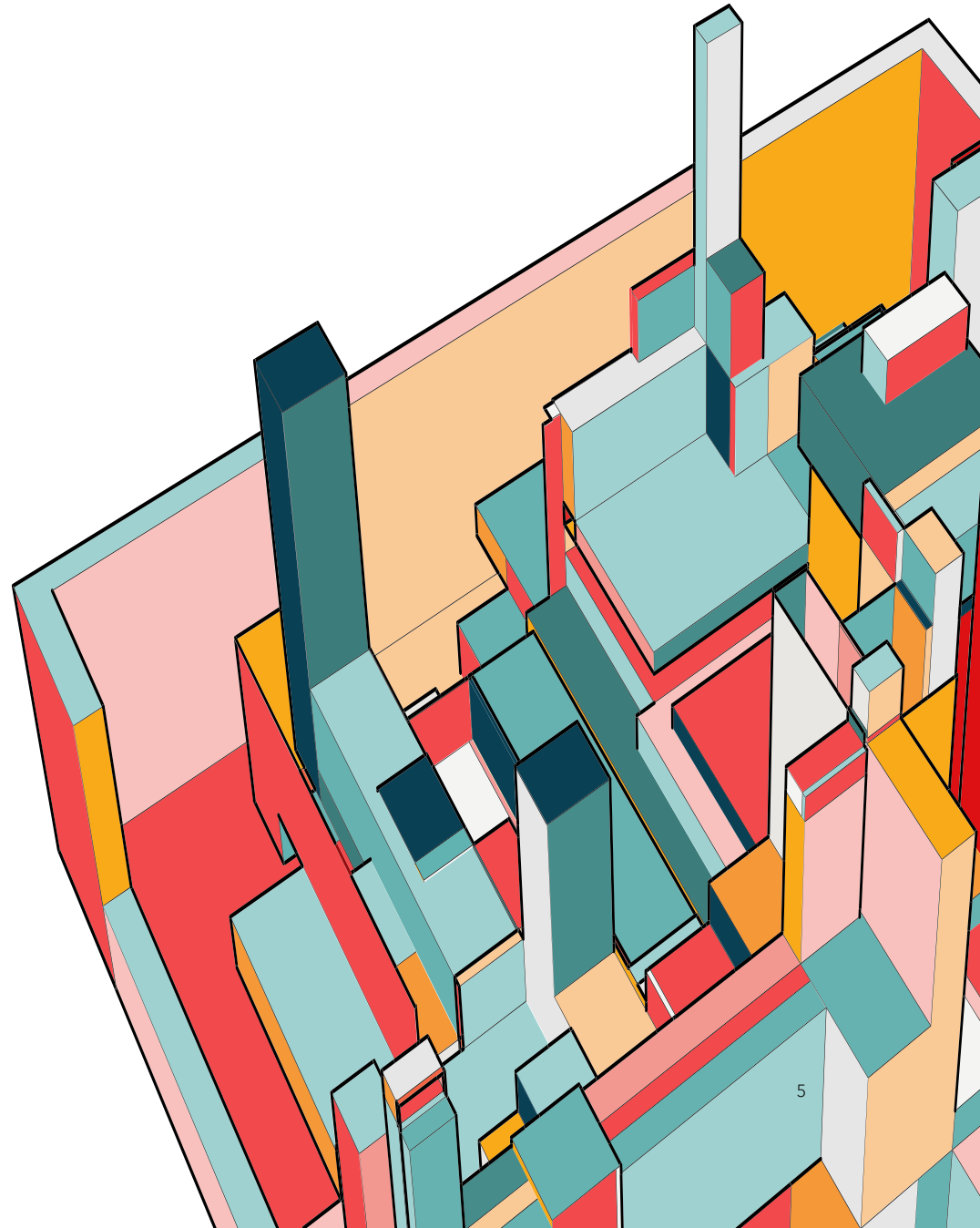


"Shaping a good quality  
workforce is a shared  
responsibility"



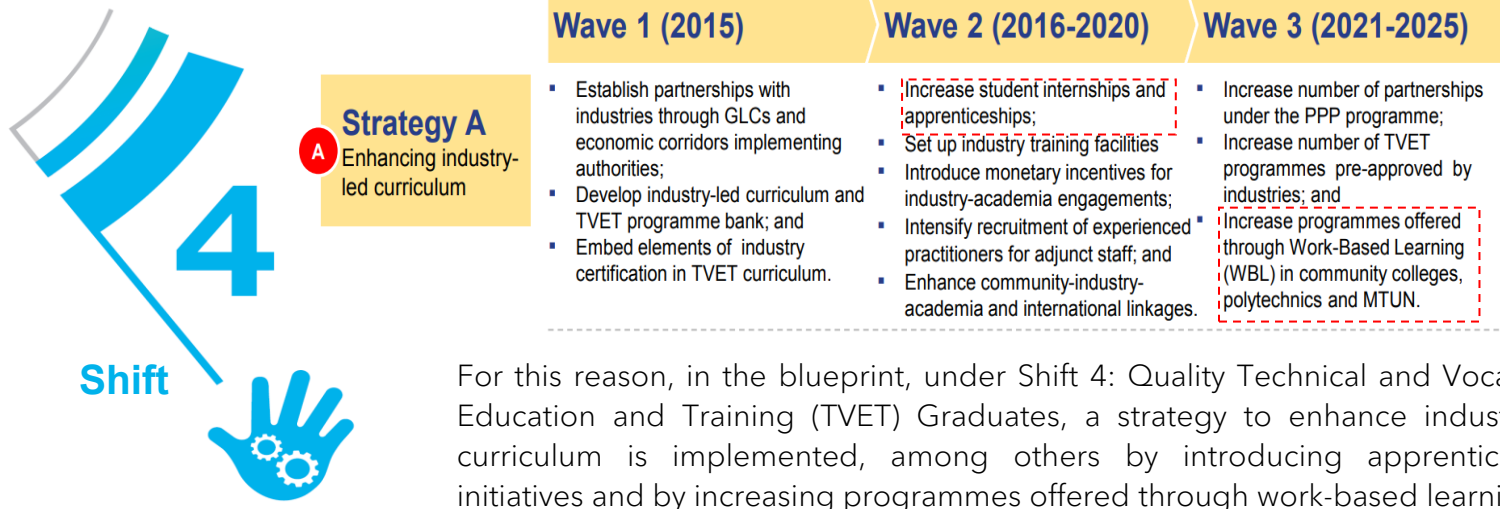
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# PREAMBLE

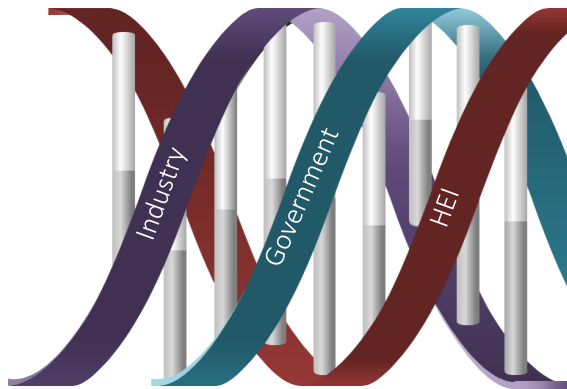
The Malaysia Education Blueprint 2015-2025 (Higher Education) (PPMPT 2015-2025) highlights the issue of mismatch between the supply and demand for graduates where graduates have insufficient knowledge, skills and attitudes required by employers. Common cause for mismatch includes Higher Education Institutions (HEI) and Industry having different expectations in terms of their role and responsibilities as well as desired graduate attributes. As a results, graduates often need a costly upskilling and reskilling programme to match the workplace requirement.



This is in line with the Quality Apprenticeships Recommendation, 2023 by International Labour Organisation (ILO), recognizing that the promotion and development of quality apprenticeships can “lead to decent work, contribute to effective and efficient responses to world of work challenges and provide lifelong learning opportunities to enhance productivity, resilience, transitions and employability and meet current and future needs of apprentices, employers and the labour market”

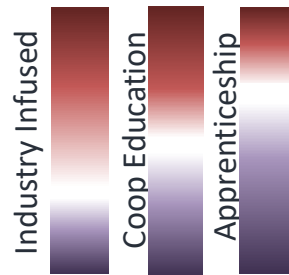
On Oct 2021, the Ministry of Higher Education has initiate Experiential Learning and Competency Based Education Landscape (EXCEL) to address the issues through experiential learning philosophy and methodology as well as competency-based education approach. One of EXCEL core approach is Industry Driven Experiential Learning (IDEAL) which is an immersive student learning experience that has a symbiotic relationship with industries to produce the current and future needs of the industry.

### Triple Helix Platform



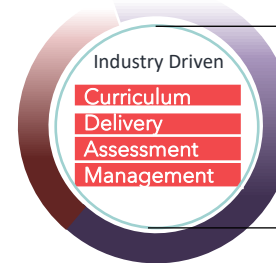
Triple Helix Co-creation of IDEAL programme is facilitated by supporting structures, policies, procedures, infrastructures such as online platforms.

### Approaches



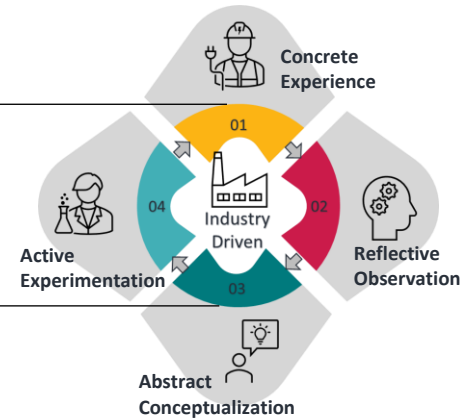
IDEAL programme could be implemented through conventional, cooperative and apprenticeship approaches, with varying degree of industry involvement, flexibility in curriculum structure and ease in implementation.

### Characteristics



IDEAL programme will have its curriculum, delivery, assessment and management be highly involved by the Industry.

### IDEAL



IDEAL programme ensures learners follows experiential learning principles to fully benefit from industrial practice and experience.

The most immersive Industry Driven Experiential Learning (IDEAL) approach is through Apprenticeship, where learners spend 70% to 80% of their study 'on-the-job', while covering both theoretical and practical components of the bachelor's degree programme. The educational objectives of the apprenticeship programme are:



### **Work ready**

Produce graduates who are ready for work and able to apply technical knowledge and work-related skills to solve task at work.



### **Matching needs**

Produce graduates whose knowledge and skills match industrial needs, reducing the amount of time and financial burden for retraining when entering the work force upon graduation.



### **Good values**

Produce graduate whose values and characters are aligned with the workplace culture and who increase value to the organisation.

Apprenticeship approach also bring other attractive benefits including:



### **Earnings**

Apprentices are also productive workers and hence is given wages and other employee's benefits which help with financial burden of the learners.



### **Access**

Provide access for existing workforce and young people with financial constraints to get higher education without needing to leave their work.



### **Employability**

Graduate employability will be significantly higher, if not 100%, as apprentice is already employed during apprenticeship programme.

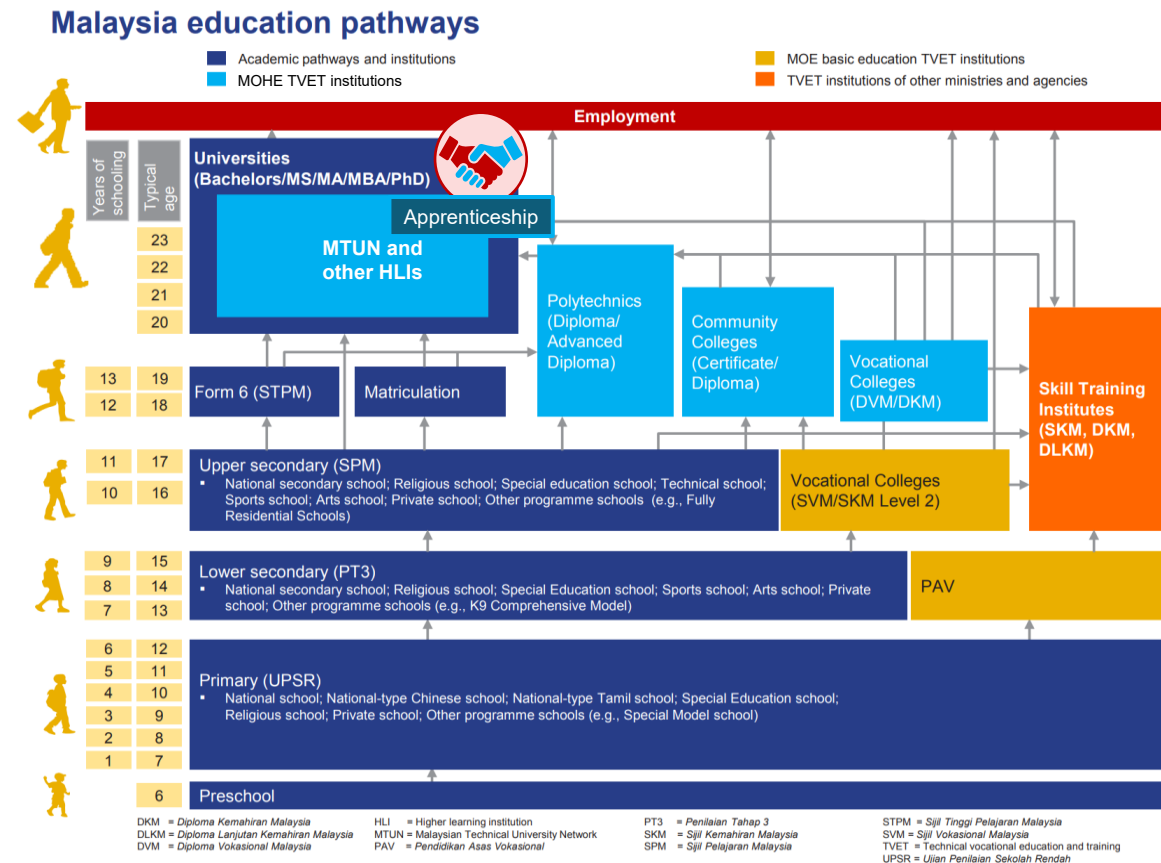


On top of the benefits highlighted, as shown in the Malaysia education pathways, apprenticeship will enhance the occupation oriented TVET stream, by bringing the real work environment and all its benefits into bachelor's degree programmes. It is evident that apprenticeship approach is highly beneficial, hence more of such programme is needed in Malaysia.

This document serves as a general guideline to assist Higher Education Institutions (HEIs) and Industry to offer apprenticeship program. The guidelines include the operational definition, the required paradigm shift and

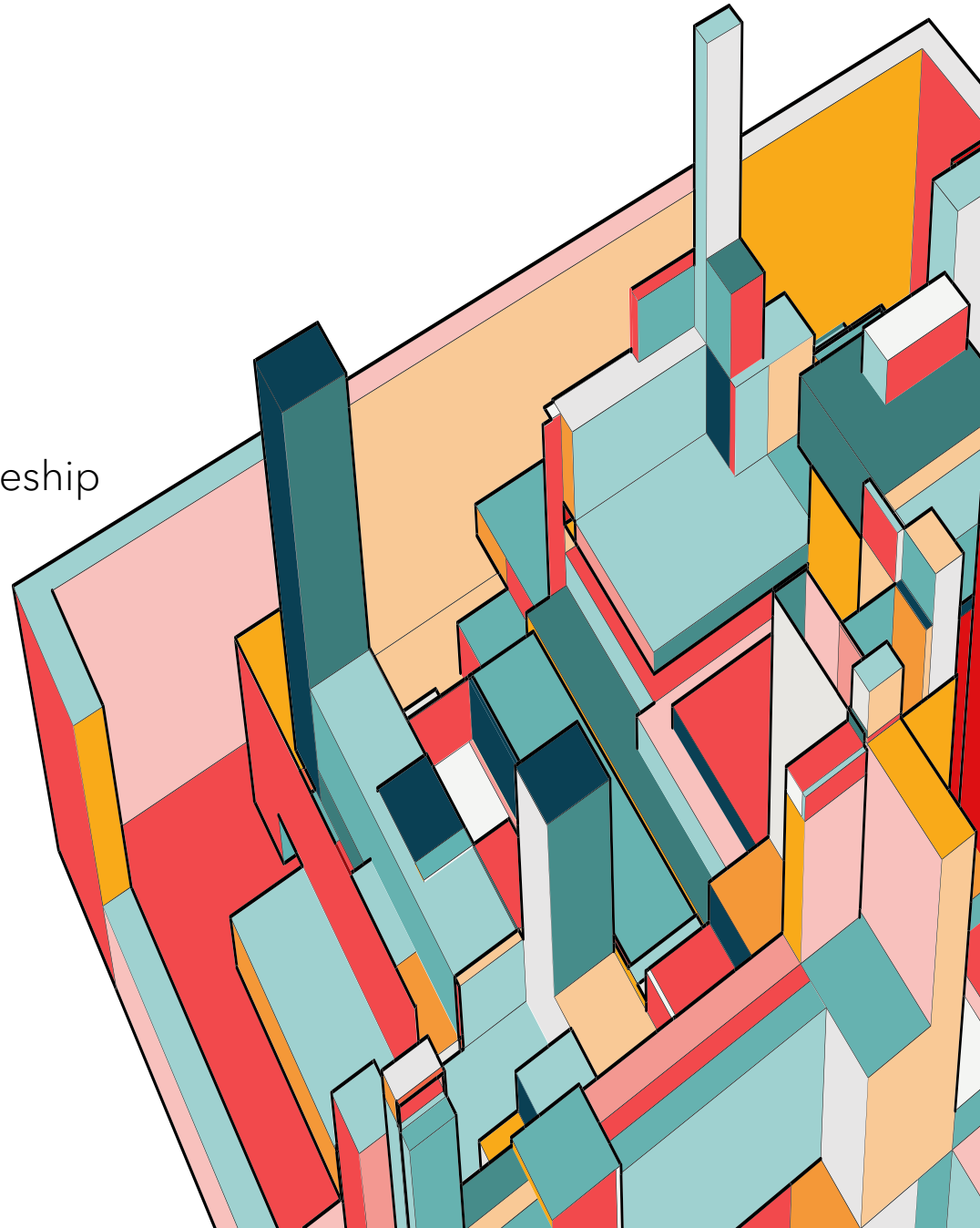
the critical success factors for the programme to be successful. The guide presents the comprehensive apprenticeship framework, and explain the detail of the planning, operation, control and management that is unique to Bachelor's Degree Apprenticeship programme.

Together, let's make the Bachelor's Degree Apprenticeship initiatives successful!



# APPRENTICESHIP FRAMEWORK

- Bachelor's Degree Apprenticeship
- Shifting Phases
- Paradigm Shift
- Critical Success Factor
- Lifecycle
- Framework



# BACHELOR'S DEGREE APPRENTICESHIP

According to Employment Act 1955 (Amendment 2021), "apprentice" means any person who has entered into an apprenticeship contract; and "apprenticeship contract means a written contract entered by a person with an employer who undertakes to employ the person and train or have him trained systematically for a trade for a specified period which shall be for a minimum period of six (6) months and a maximum period of 24 months in the course of which the apprentice is bound to work in the employer's service".

From the definition, apprentice is someone who has agreed to work for a skilled person for a particular period and often with payment, to learn that person's skills. Apprenticeship is a systematic long-term training for a recognized occupation or profession taking place substantially within an undertaking or under an independent worker governed by a written contract and subject to established standards. Apprenticeship degree is an apprenticeship programme for the pursuance of academic bachelor's degree certificate with apprenticeship certificate.

As an apprentice is governed by the Employment Act (Amendment) 2021, the planning and execution of the bachelor's degree apprenticeship programme is relatable to the law, hence should be read together with this document.



## Employed

Employed as apprentice



## Training programme

Systematic training programme



## Specific Trade/Profession

The training is for a specific trade or profession



## Specified Period

The period is clearly defined



## Academic Cert

In pursuance of academic competence



## Apprentice Cert

In pursuance of practical competence

# SHIFTING PHASES

'Learn then Earn' model has been implemented by some of the Higher Education Institutions (HEI) in the form of 2u2i programmes. With the paradigm shifts, HEI and working organisations could shift to 'Earn and Learn' model as a more favourable alternative. Industry demand driven and industry active participation in setting up apprenticeship programme is favourable in the long run. Active involvement of the employer in running the apprenticeship programme will ensure higher percentage job guaranteed.

## Learn then Earn Model

Enrolment by HEI

Up to 50% time on-the-job

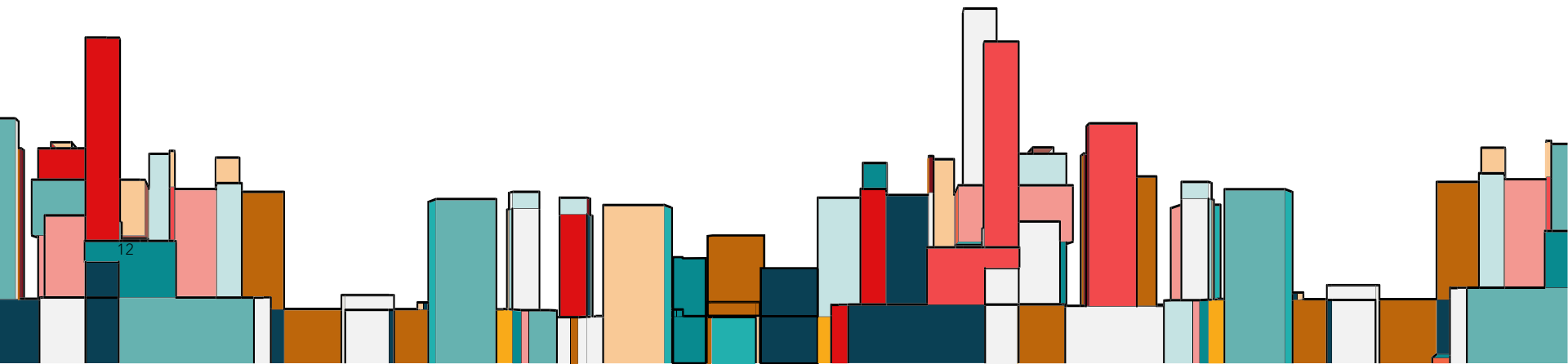
Students still need to seek for job after industrial training

## Earn and Learn Model

Recruitment by Employer

70% - 80% time on-the-job

Apprentice is employed and has better career prospect

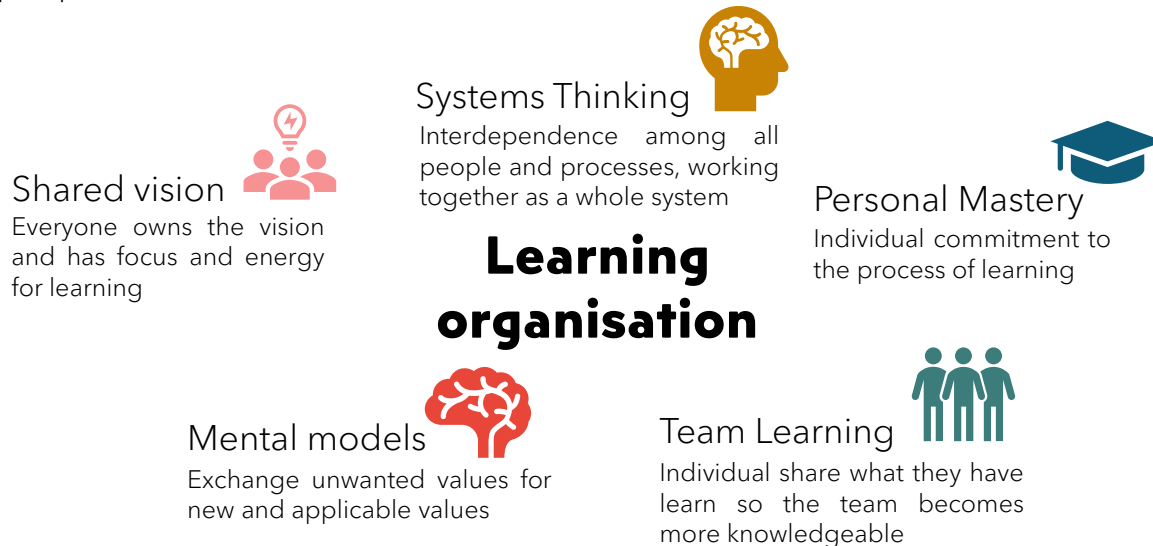


# LEARNING ORGANISATION

The apprenticeship initiatives shall begin with a vital paradigm shift. The working organisation should fully embrace 'learning organisation' and fulfil its requirements. This should include system thinking, personal mastery, mental models, shared vision, and team learning (Peter Senge, 1990).

A learning organisation is an organisation skilled at creating, acquiring, and transferring knowledge, and at modifying its behavior to reflect new knowledge and insights (Garvin, 1993). This definition begins with a simple truth: new ideas are essential if learning is to take place.

The working organisation should have a mindset that shaping a good quality workforce is a shared responsibility. More importantly, the effort of nation building and maintaining peace and harmony should be a working plan of any working organisation as it will bring direct benefit to a company because prosperous nation also means a prosperous business.



### Robust Institutional and Regulatory Framework

A stable and robust institutional and regulatory framework. The framework states the context and baseline conditions of the implementation.



### Close Alignment with the Labor Market Needs

The alignment of the placement to national, regional or local labor market needs which in turn inform the curricula or qualification framework. This is critical for ensuring a sustainable apprenticeship and enough placement for level 6 apprentice.



### Strong Employer Engagement

Strong employer engagement including co design of programmes, supply of quality placements, support to the apprentice/trainee, quality assurance, promoting schemes.



## CRITICAL SUCCESS FACTORS 1

(Source: Apprenticeship and Traineeship Schemes in EU27: Key Success Factors, A Guidebook for Policy Planners and Practitioners, European Union, December 2013)

### Funding including Employer Subsidies and Other Incentives

The provision of adequate funding for the proper design and rigorous implementation of programmes.



### Active Social Partner Involvement

Constructive dialogue with trade unions and employee representatives including agreeing on for a balance between occupational, firm-specific skills and more general and transferable knowledge and skills that the apprentice needs to acquire through the placement.



### Robust Quality Assurance

Robust procedures, administered by an external single body or jointly by the sending organisation and host organisations. Can cover i.e. learning content, length of training, equity of access and working conditions.



### High-quality Guidance, Support and Mentoring of Apprentices

Both at the workplace and at the sending organisation. Critical for the successful completion and reduction of drop-out risks, as well as monitoring and quality assurance.



### Appropriate Matching of Apprentice to Host organisation (Company)

Employers can use the work practice period to screen the potential employee. The apprentice can obtain a realistic job preview and enable them to build relevant contacts and networks.



### Combination Class-based Training with Practical Work-Related Experience

Structured, blended learning, including class-based and on-site work-based learning. Enabling apprentice to achieve qualifications based on practical knowledge and skills.



## CRITICAL SUCCESS FACTORS 2

(Source: Apprenticeship and Traineeship Schemes in EU27: Key Success Factors, A Guidebook for Policy Planners and Practitioners, European Union, December 2013)

### Existence of an Apprenticeship Agreement

The agreement delineates roles and responsibilities of all parties and specifies apprentice terms and conditions. It is generally crucial for the successful achievement of the programme's aims and the protection of the parties involved.



### Certification of Acquired Competences

Accreditation of the knowledge and skills obtained in both the on-the-job and off-the-job phases of training. The certification should state the duration and learning content, tasks and activities undertaken, and the acquired knowledge, skills and competences.

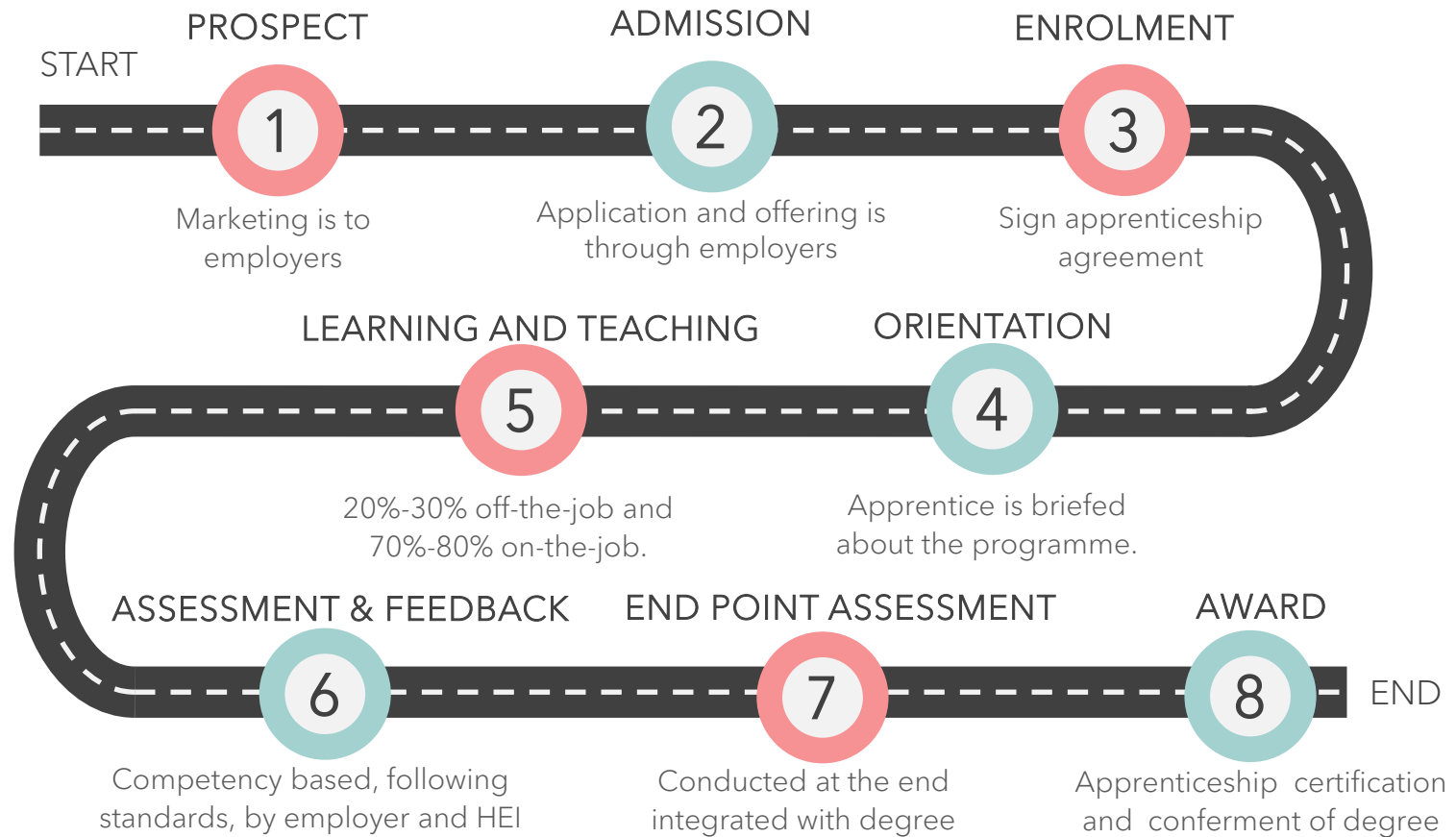


### Tailored & Flexible Approaches

The introduction of innovations to respond to specific needs in terms of pedagogical methods, flexibility of curricula, individualization of learning pathways, partnerships with key stakeholders, funding mechanisms, and training environments.



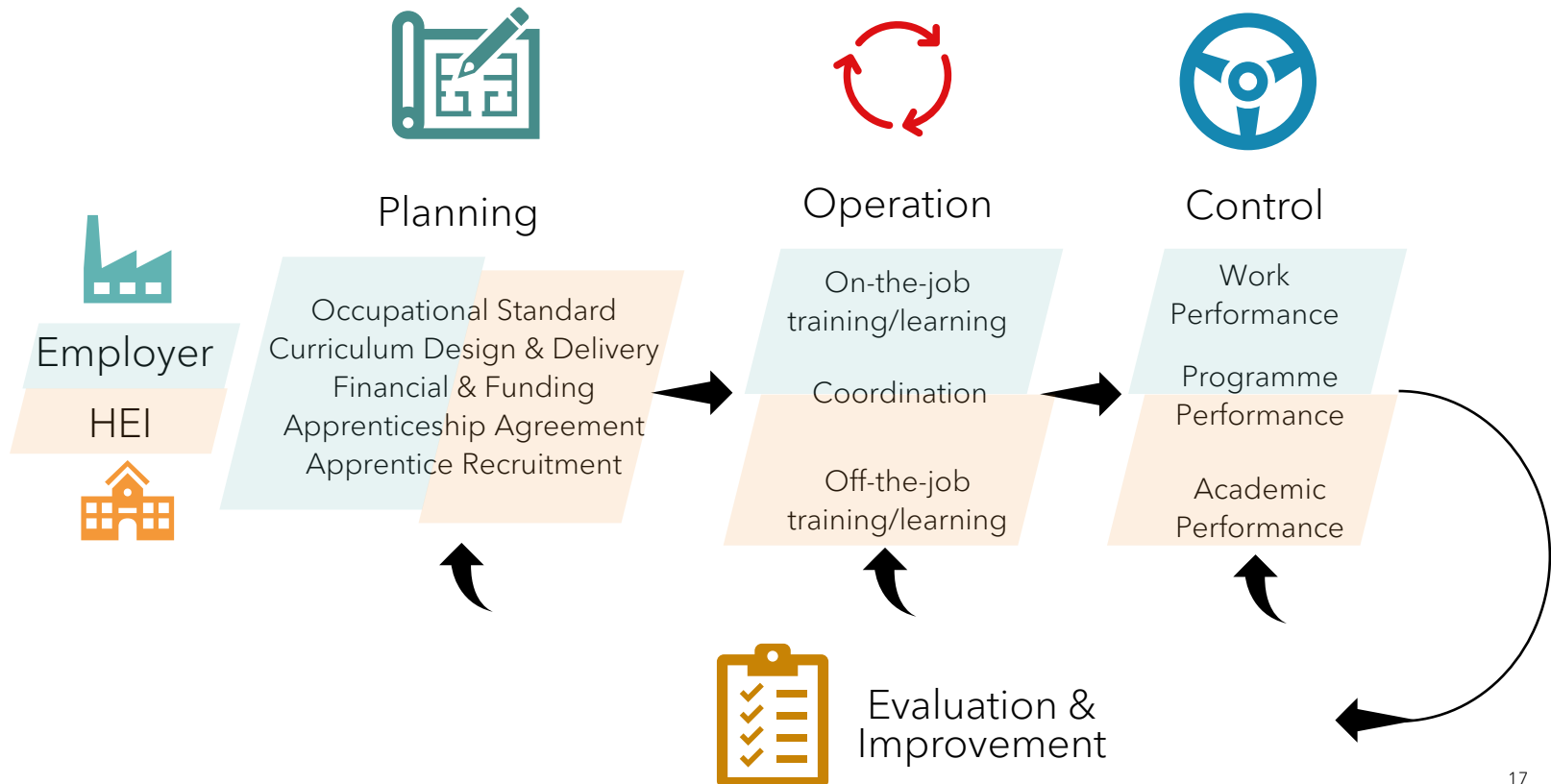
# APPRENTICESHIP LIFECYCLE

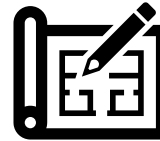




# APPRENTICESHIP FRAMEWORK

Employer shared responsibility with Higher Education Institution (HEI) in all activities in planning. In the operation of the programme, employer is responsible for the coordination and on-the-job training/learning. In control, employer is responsible for the evaluation of work performance and for the programme assessment. Both employer and HEI need to continuously evaluate and improve the programme.





## PLANNING

- Occupational Standard
- Curriculum Design & Delivery
- Financial & Funding
- Apprenticeship Agreement
- Apprentice Recruitment

# OCCUPATIONAL STANDARD

Occupational Standards list the competency of an occupation or profession by detailing the knowledge, skills and attitudes required for effective workplace performance. They specify what a person should know and do in order to effectively carry out the functions of a particular job in the context of the work environment. In Malaysia, Occupational and Industry Standard and Practice (OISP) or Programme Standard from relevant Professional bodies are governed by Malaysia Qualification Agency (MQA) and Department of Skill Development (DSD). Under the single quality assurance system for TVET initiative, the OISP and relevant standards could be reached in TVET portal (<https://www2.mqa.gov.my/tvet/2020/index.cfm>). In the case where an occupational standard is not available in the OISP lists yet, a benchmark to company standard and good practices can be referred to and effort to register it can be made.

Relevant regulatory framework by MQA and Department of Higher Education's such as Code of practice for TVET Programme Accreditation (COPTPA) and Guideline of Good Practices (GGP) in Curriculum Design and Delivery, GGP in Student Assessment, GGP in WBL as well as GGP in TVET Curriculum Design and Delivery and GGP in 2u2i Implementation should also be referred.

**GUIDELINES TO GOOD  
PRACTICES: WORK-  
BASED LEARNING  
(GGP: WBL)**



**Garis Panduan  
Reka bentuk dan  
Penyampaian  
Kurikulum TVET**

# CHARACTERISTICS OF APPRENTICESHIP CURRICULUM DESIGN AND DELIVERY

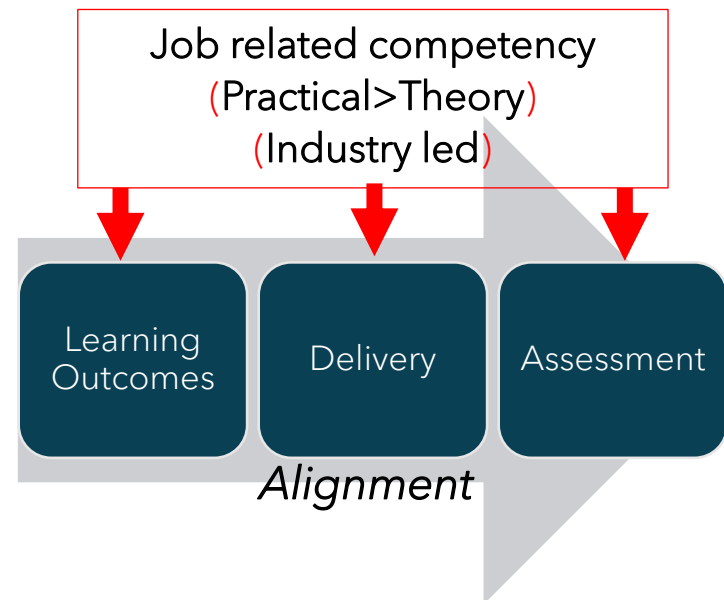
Apprenticeship is very much a TVET programme where according to UNESCO:

*"those aspects of the educational process involving, in addition to general education, the study of technologies and related sciences and the acquisition of practical skills, attitudes, understanding and knowledge **relating to occupation** in various sectors of economic life".*

[UNESCO-UNEVOC.TVETipedi]

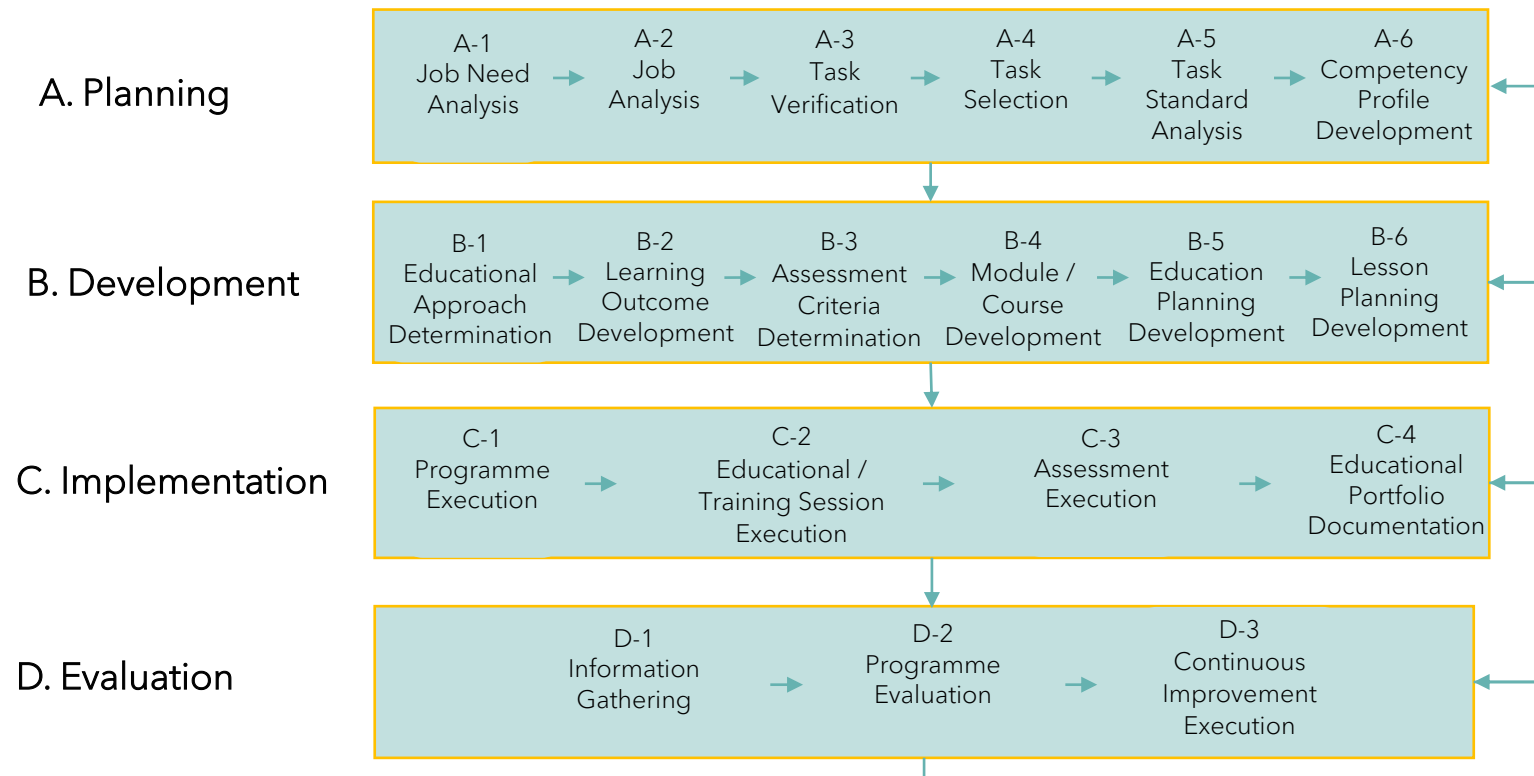
[Glossary.www.unevoc.unesco.org]

For this reason, the learning outcomes, delivery and assessment of apprenticeship program should be aligned to job related competency.



# CURRICULUM DEVELOPMENT PROCESS

The development and delivery of the apprenticeship programme must be well planned and systematically executed to ensure the quality of the program. Please refer to Department of Higher Education's '*Garis Panduan Rekabentuk dan Penyampaian Kurikulum TVET*'. Its key features are in the planning phase, where competency profile is developed based on job and task analysis.



# CURRICULUM DEVELOPMENT

Competency Unit

Food Styling

*Chef Bunga*



























































Work activities	K, S, A	Learning time	Delivery Mode	Assessment Criteria
Food Styling for Marketing	<p><b><u>Knowledge</u></b> Fundamental of food characteristic</p> <p><b><u>Skill</u></b> Color blending and Food composition for photography</p> <p><b><u>Attitude</u></b> Passion, Patience Empathy, Meticulous</p>	<p><b><u>Knowledge</u></b> Lecture - 2 hours</p> <p><b><u>Skill &amp; Attitude</u></b> Demonstration - 6 hours</p>	<p><b><u>Knowledge</u></b> Lecture</p> <p><b><u>Skill</u></b> Lab demonstration</p> <p><b><u>Attitude</u></b> Observation and reflection</p>	<p><b><u>Knowledge</u></b> Able to select appropriate combination of food.</p> <p><b><u>Skill</u></b> Able to perform food styling technique for photography.</p> <p><b><u>Attitude</u></b> Able to demonstrate passion, patience, empathy and meticulousness.</p>

Competency unit is delivered through related work activities. The work activities is mapped to their required knowledge, skill and attitude. Each is mapped to the learning time, delivery mode, as well as assessment criteria.

# APPRENTICESHIP MODEL

Based on year of study

Work-based learning curriculum can be designed as a day release structure or a block release structure or a combination of both (hybrid). 70% to 80% of the curriculum shall be delivered during the on-the-job training whereas 20% to 30% of the curriculum shall be delivered off-the-job.

Study Period	Example Implementation Model	Apprenticeship Placement (Example)							
		Semester							
		1	2	3	4	5	6	7	8
4 years	Day release								
	Block release								
									
	Hybrid								
									
3 years	Day release								
	Block release								
	Hybrid								



On the Job/ Industry



Off the Job/ University

# CURRICULUM STRUCTURE

**Example 1: Simulation of curriculum structure for theoretical and practical component in curriculum and delivery.** Apprenticeship programme could have the arrangement based on COPTPA's minimum standard of curriculum structure for Bachelor's Degree. Notice that practical component are at 50% of the discipline core modules. Notice also the industrial training requirement is exempted with apprenticeship programme.

Qualification / Level	Curriculum Structure	Minimum Credits	Practical component	Theoretical component
Bachelor's Degree / Level 6	1. Compulsory Modules (MPU/ Core Abilities/ Social Skills and Values + TVET Provider's modules)	8	0	8
	2. Discipline Core Modules (50% of which must be practical oriented including Final project)*	92	46 (50%)	46 (50%)
	3. Other courses for remaining credits **	20	20	0
	Minimum Total Graduating Credit***	120	66	54

\* Industrial training component is exempted with apprenticeship mode. If this is the case, the credit allocation for industrial training can be merged into discipline core modules

\*\*To complete the minimum graduating credit requirement, the remaining credits can be from any of the categories above

\*\*\*The structure must be aligned with relevant programme standard



# FINANCIAL AND FUNDING

Establishing an optimal and equitable funding arrangement is a core aspect of running Quality Apprenticeship systems.

The employer and Higher Education Institution (HEI) shall prepare the costing and financial annex for the purpose of ensuring sustainability in running the programme and safeguarding the interest of the apprentice in completing the programme.

Apprenticeship training programme need allocation for wages, trainer incentive, training material and other resources. Apprentice is also an employee hence need to be treated accordingly.



Financial planning for running and sustaining programme



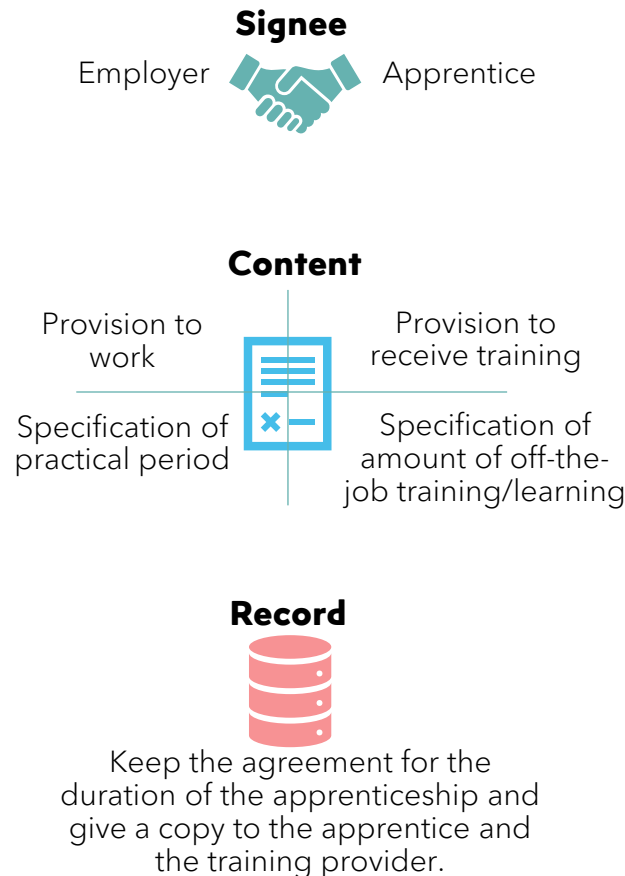
Funding initiative lead by industrial chamber/trade union/ collaborating companies (e.g. HRDF)



Funding for wages, trainer incentive, trainer material and resources.

# APPRENTICE AGREEMENT

According to Employment Act 1955 (Amendment 2021), apprenticeship contract means a written contract entered by a person with an employer who undertakes to employ the person and train or have him trained systematically for a trade for a specified period which shall be for a minimum period of six (6) months and a maximum period of 24 months in the course of which the apprentice is bound to work in the employer's service.

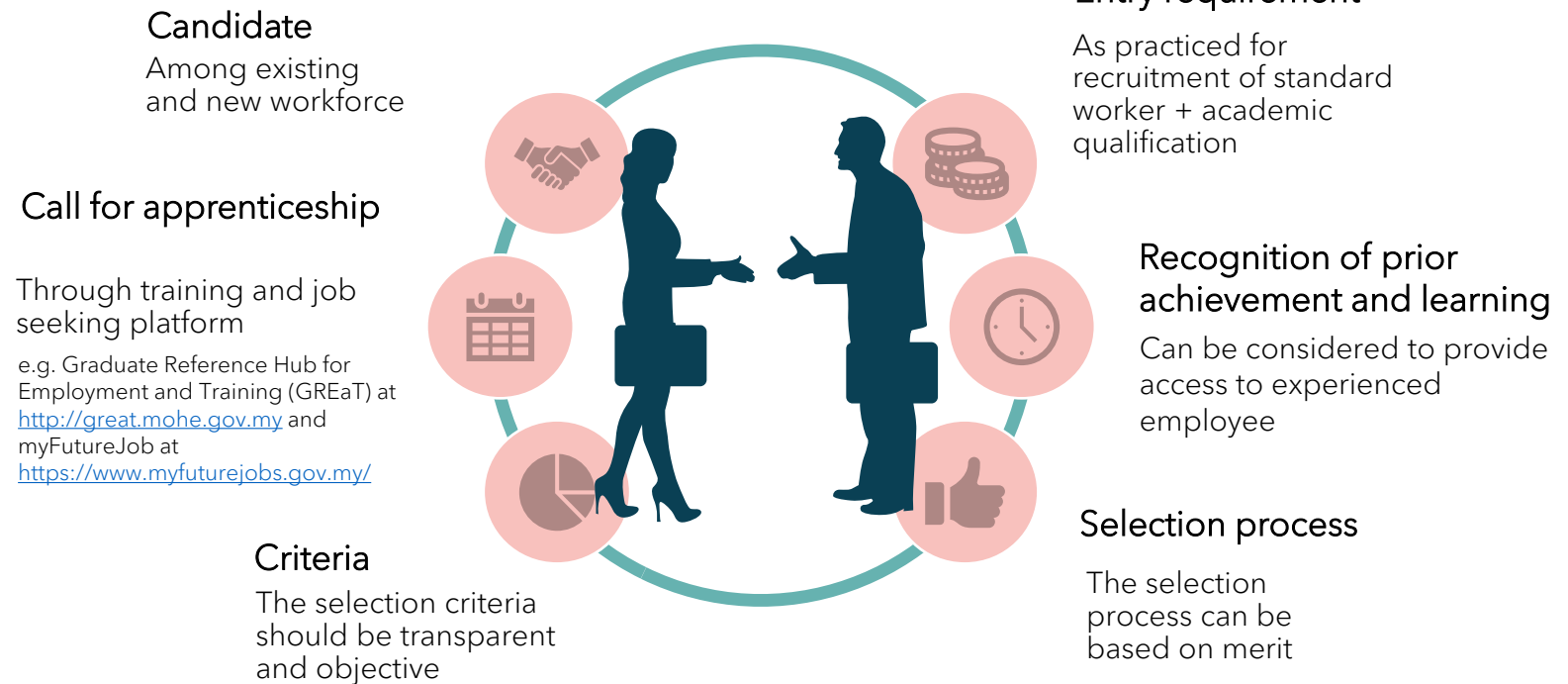


The contractual agreement states the apprenticeship standard and level, as well as the provision to work and receive training. The agreement specifies the amount of practical period and the amount of off-the-job training. The agreement also fulfils the minimum requirement of the apprenticeship contract as highlighted in Employment Act, and related act such as EPF Act 1991.

Other than employer-apprentice agreement, agreement between company and HEIs should also be prepared.

# APPRENTICE RECRUITMENT

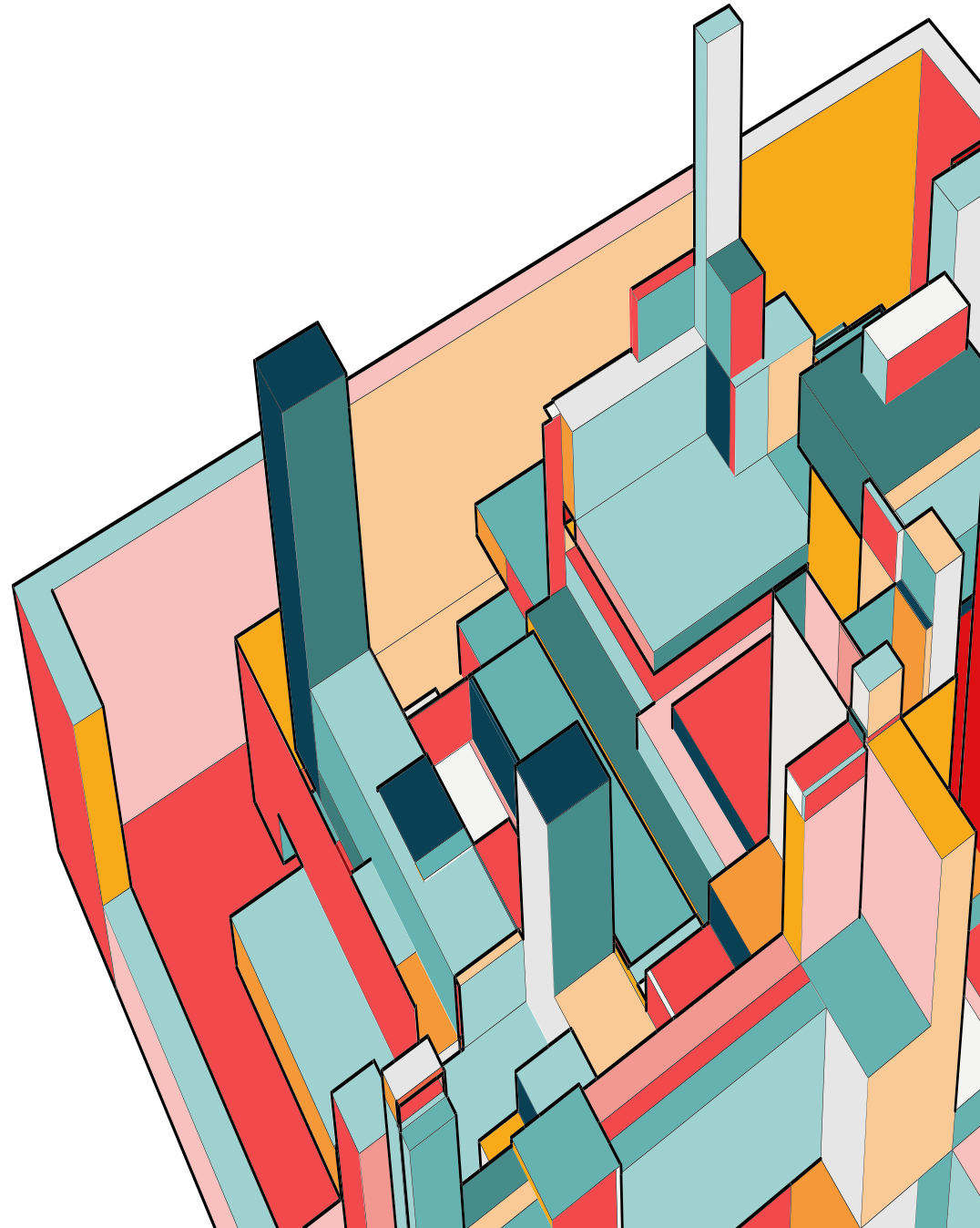
The process of undertaking apprenticeship will be through recruitment and selection process, even for organisations' current employees. The Employer and Higher Education Institution (HEI) must ensure that the apprentice candidate have the capacity to follow the programme successfully.





## OPERATION

- On-the-job training/learning
- Coordination
- Off-the-job training/learning



# ON-THE-JOB VS OFF-THE-JOB



## On-the-job

On-the-job training is conducted on the employer premises or on the work-site. This include work setting where normal employees are allowed to work remotely, provided that there are appropriate work environment, work culture and quality mentoring that support the arrangement. Work-based learning can be conducted at the workplace by either academic staff/tutor from the HEI or a qualified industry coach appointed by the HEI and workplace management.



## Off-the-job

Apprentice study 'off-the-job' with the HEI for completing the learning outcomes of the programme not covered in the company. Off-the-job delivery does not necessarily mean physical classroom delivery. Alternative and more flexible delivery such as online learning and micro-credentialing could also be off-the-job delivery. The delivery could even be conducted in the employer premises as long as it is not part of the job of the apprentice.

# CURRICULUM DELIVERY



## Blended Learning

Digital learning material could be accessed through 'e-learning' platform to provide flexibility for apprentice to learn anywhere at any time.



## Work Directed Theoretical Learning

Active learning approach to learn theory based on work activities conducted at the workplace.



## Problem Based Learning

Problem is curated based on work requirement to match the intended learning outcomes and solved with guidance of coach and lecturer.



## Project Based Learning

Project at the workplace is turn into learning covering wider topics from the core discipline of the programme to ethics, management and communication.



## Capstone Project

A type of project-based learning that require the use of comprehensive fundamental and applied knowledge from all topics learn in the programme.



## Final Year Project

A type of project-based learning that usually focus on investigative work and is conducted individually.

# THEORETICAL WHILE ON-THE-JOB

**Example 2: Will there be enough theoretical knowledge coverage for bachelor's degree apprenticeship?**  
The table below shows simulation of the mapping between 'theoretical (T) and practical (P)' component and on-'the-job and off-the-job' delivery in a typical one semester. In total there are 45% of total time spent on delivering theoretical component while learners spent 75% of time on-the-job. This is achieved by delivering theoretical component during on-the-job delivery hours using suitable delivery technique.

Course	SLT hours	Component	Learning/ training hours	Delivery hours	
				On-the-Job	Off-the-Job
Course A	80	T	80	0	80
		P	0	0	0
Course B	120	T	0	0	0
		P	120	120	0
Course C	120	T	60	30*	30
		P	60	60	0
Course D	120	T	60	60*	0
		P	60	60	0
Total time, h (Percentage, %)		T	200 (45%)	330 (75%)	110 (25%)
		P	240 (55%)		

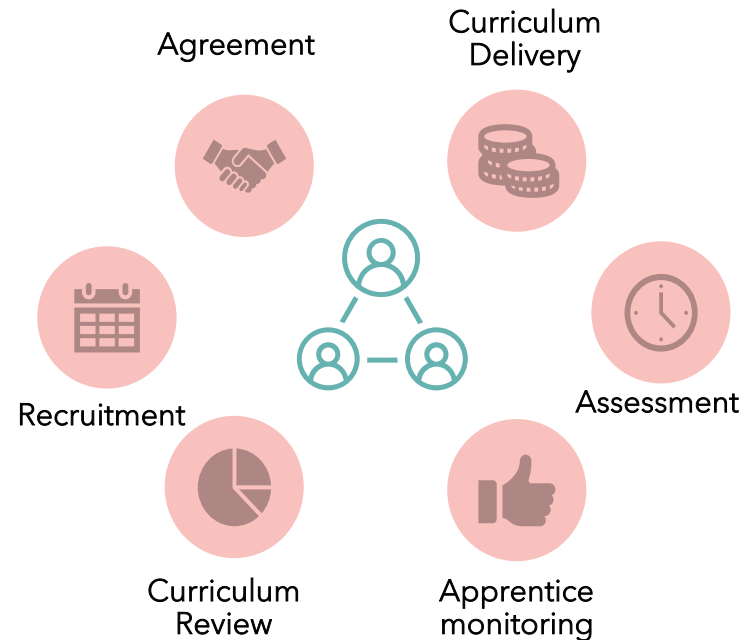
\*Theoretical component of the course content is delivered during on-the-job training through experiential learning methodology through method such as problem-based learning, project-based learning, case study and discovery learning.

# COORDINATION

Employer and HEI must clarify their structure and function to run the apprenticeship programme and coordinate apprenticeship activities.

Employer and HEI must have policies, procedures and mechanisms for guiding the structures, functions, strategies, core processes and core activities to ensure quality offering. These include recruitment, monitoring of the apprentice progress, handling test and examinations, managing curriculum review, apprenticeship contract and handling unforeseen circumstances. Both parties also need to take measures to respect, promote and realize the fundamental principles and rights at work in relation to apprenticeships. Further detail on good practices related to quality apprenticeship can be found in Quality Apprenticeships Recommendation, 2023 (No. 208) by International Labour Organization (ILO).

The structure, function, policies, procedures and mechanisms must be communicated to all stakeholders involved based on the principles of responsibility, accountability and transparency.





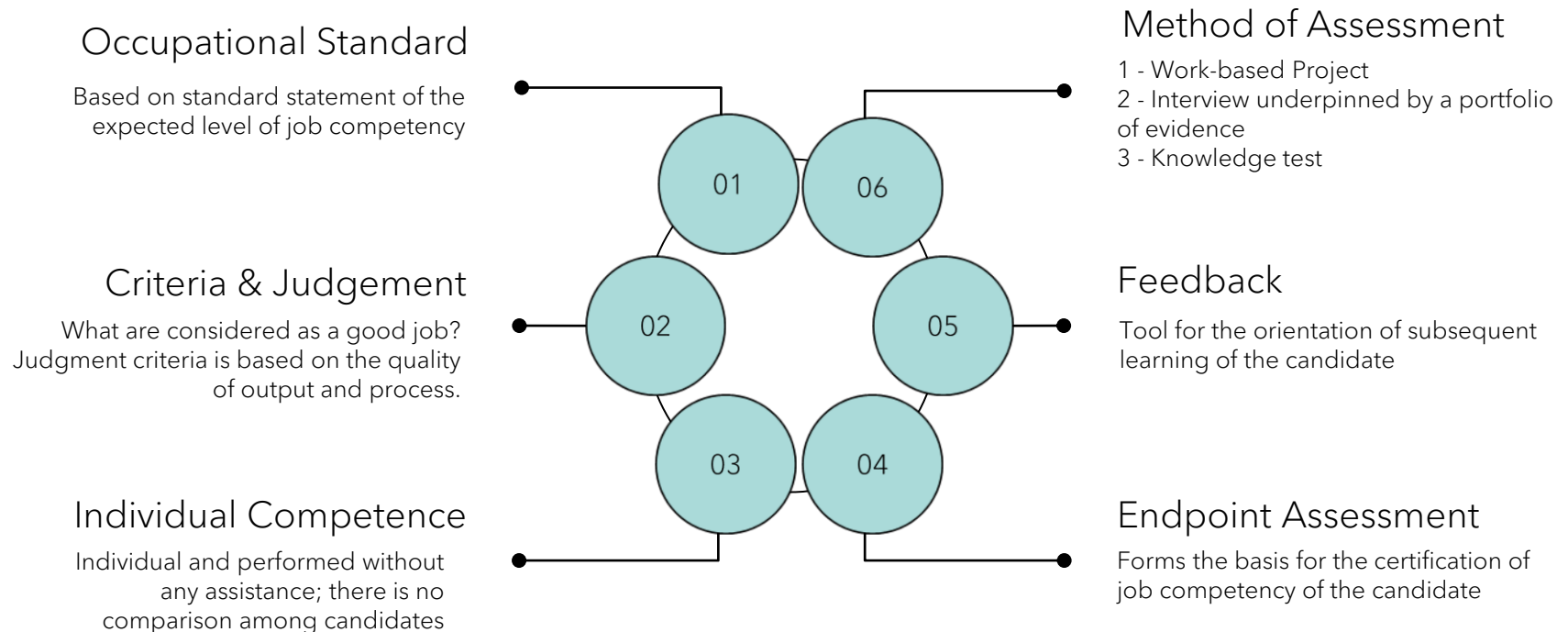


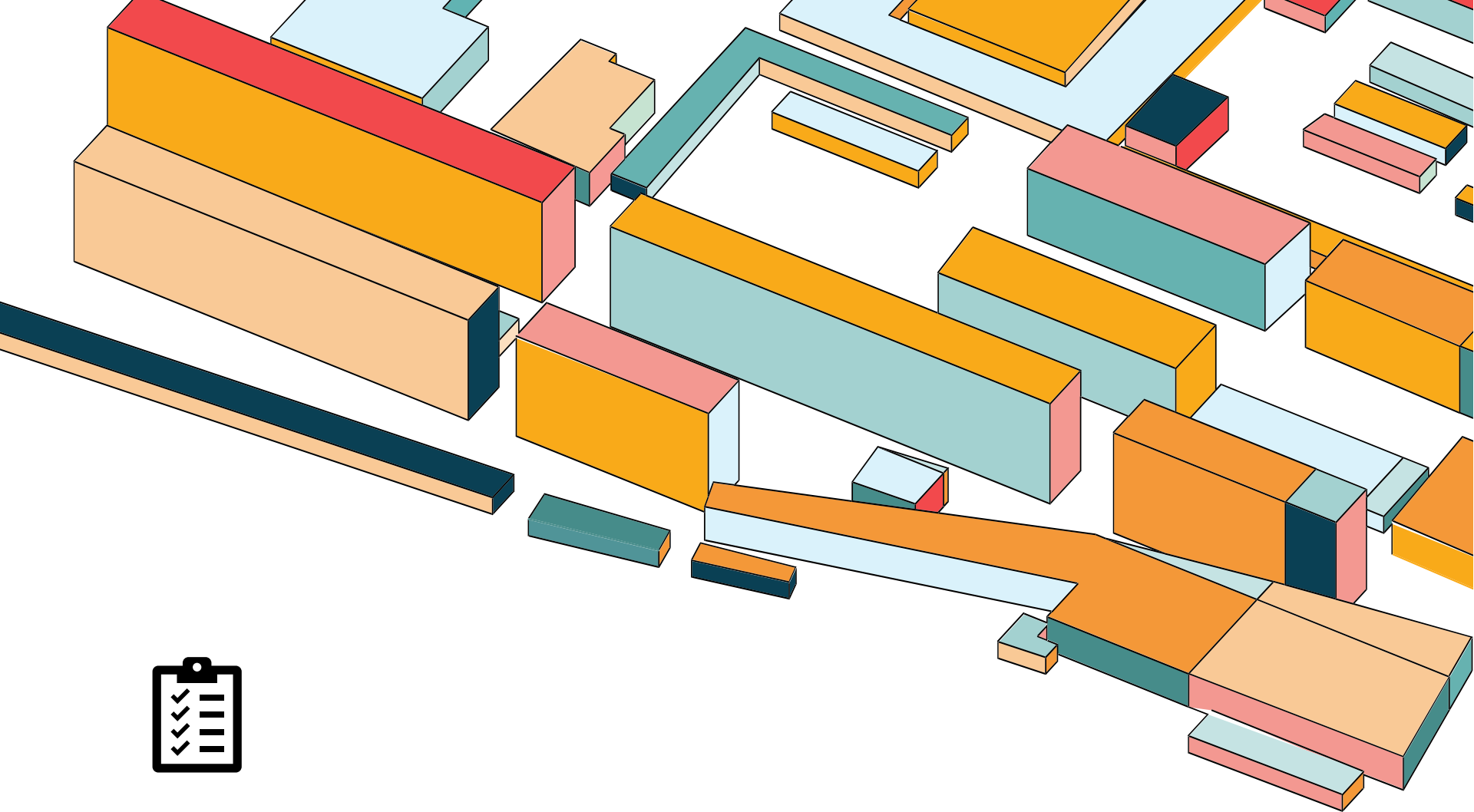
# CONTROL

- Work Performance
- Academic Performance
- Programme Performance

# CHARACTERISTICS OF COMPETENCY-BASED ASSESSMENT

The key features of apprentice assessment is the competency-based assessment on the work and academic performance.





# EVALUATION & IMPROVEMENT

## Evaluation & Improvement

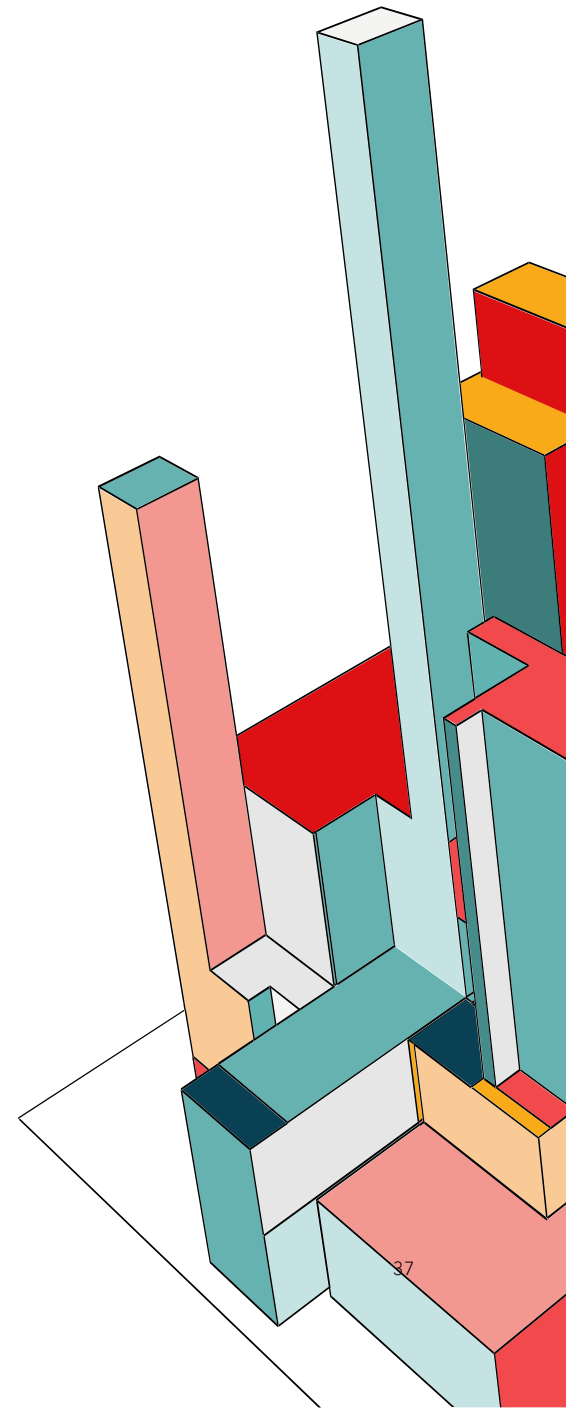
Employer and HEI must have a structure and function, as well as clear policies and appropriate mechanisms for regular monitoring and review of the programme.

The component of the programme in the planning, operation and control stage should be periodically assessed.

Apprentice work and academic performance could be the indicator for programme performance.



# **MANAGEMENT OF APPRENTICESHIP STUDY MODE**



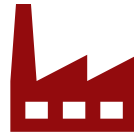
# ROLES & RESPONSIBILITIES

Employer, HEI and the apprentice have a shared responsibility in making the apprenticeship programme a success. Employer play a significant role in the planning, operation and control of the programme.



HEIs

- ✓ Set up apprenticeship committee
- ✓ Appoint competent industry coordinator and coaches
- ✓ Conduct briefing/training for industry coaches
- ✓ Provide certification of bachelor's degree



EMPLOYER

- ✓ Active member in the apprenticeship committee
- ✓ Appoint a coordinator and industry coaches
- ✓ Match the training policy in industry
- ✓ Provide certification of apprenticeship

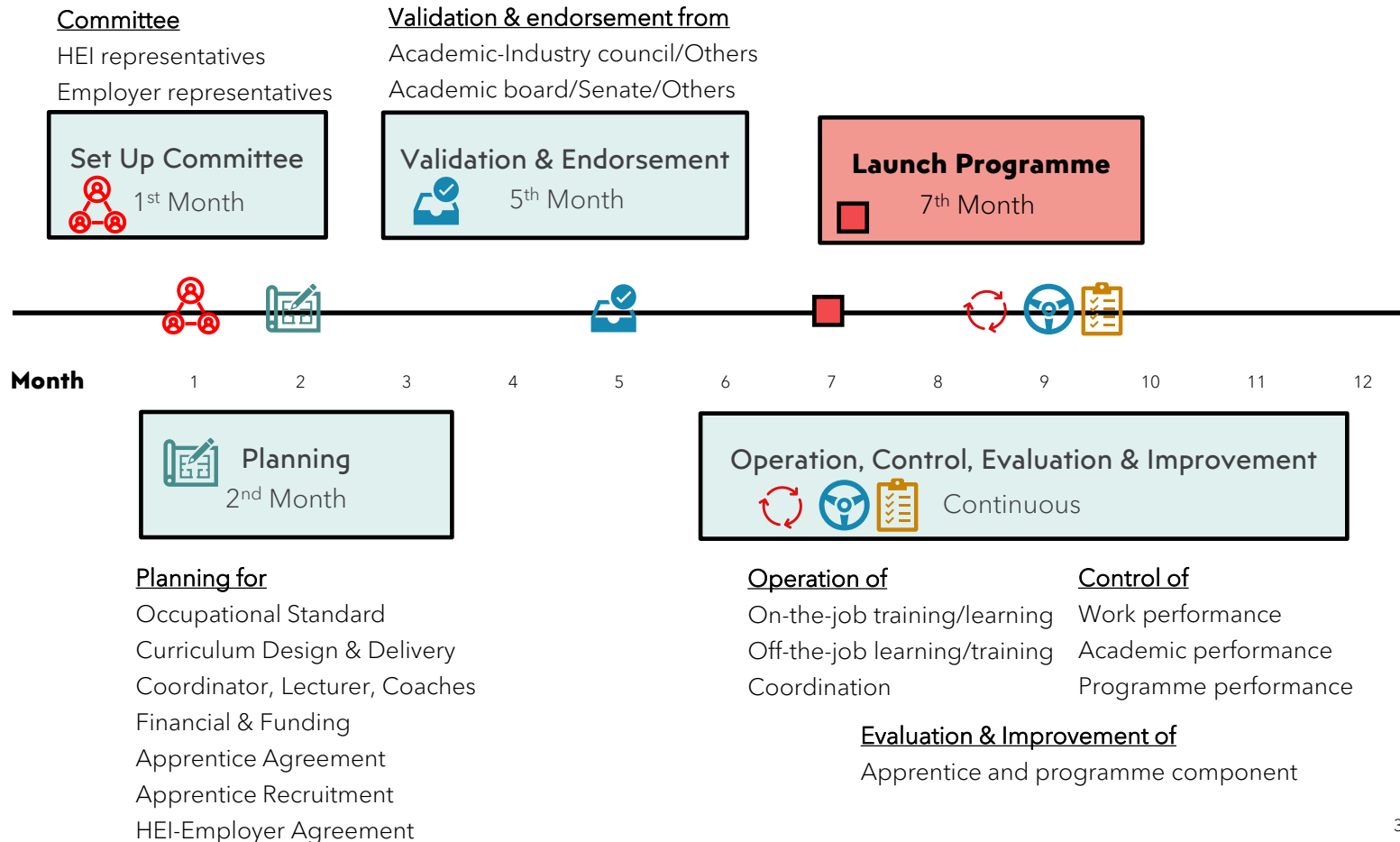


APPRENTICE

- ✓ Comply with policies and regulations
- ✓ Provide feedback to HEIs and the industry
- ✓ Create positive relationships
- ✓ Complete assignments and reports within the specified time frame

# PROGRAM DEVELOPMENT TIMELINE

**Example 3:** What could be the timeline in developing an apprenticeship programme? The timeline below shows a typical programme development activity of a new bachelor's degree apprenticeship programme.



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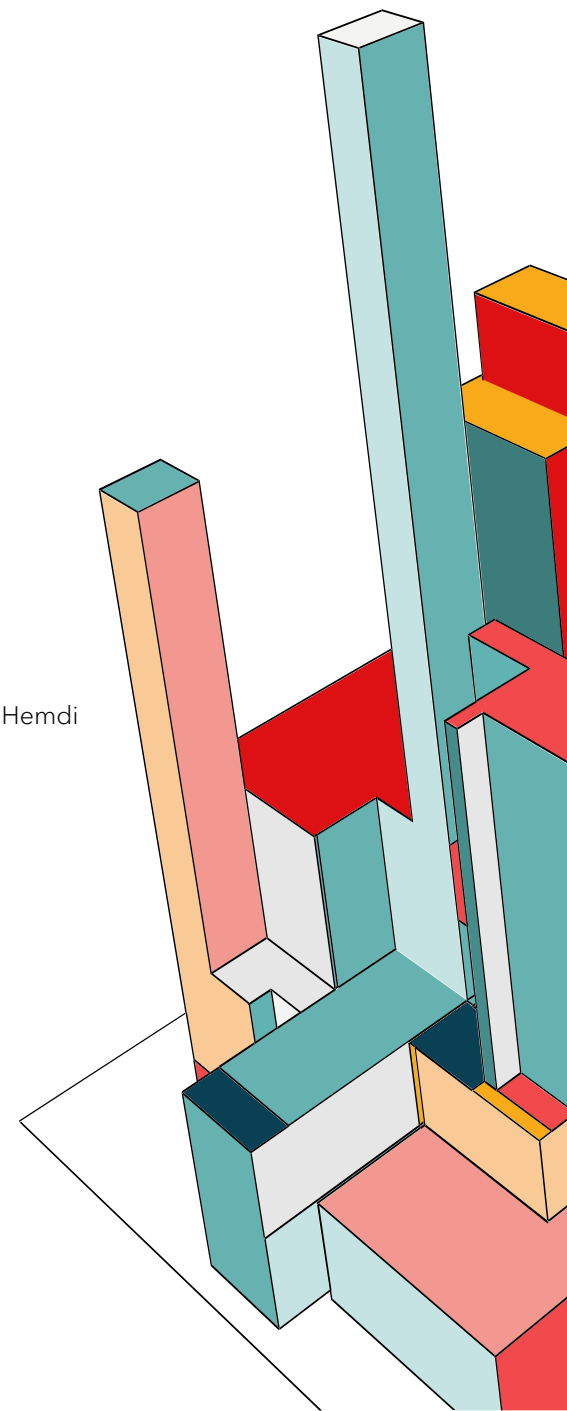
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