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Work-Study Apprenticeship

A Work Situation Curricular Approach to Job Training Performance

December 2023

Overview

Implementing institution(s)	Institute of Technical Education (ITE) Singapore College Central, College East and College West
Country and / or localities where practice has been implemented	Singapore
Timeline (first year of implementation – last year of implementation)	2019 -2023 (ongoing)
Target group	ITE's <i>Nitec/Higher Nitec</i> graduates and in-service employees sponsored by companies
Total cost incurred / Resources required	Human Resource from the Curriculum Development and Educational Division, Examination Division, Academy and Colleges

Work-Study Apprenticeship

INTRODUCTION

According to the Future of Jobs Report (World Economic Forum, 2023), nearly a quarter of all jobs will be disrupted in the next five years. There is an urgent need for each country skills systems to offer reskilling and upskilling in response to the changing economic and labour market environment. Such changes have placed increasing demands on the workforce who need to be highly skilled and adaptable to the changes in the workplace.

More flexible and effective pathways to facilitate opportunities for further learning should be available to help meet economic demands for higher-level skills, qualifications and promote social inclusion and mobility in the labour market.

For work-based learning, a paradigm shift towards the development of relevant TVET curricula calls for the linking of school-based learning and work activity in particular occupations and also theory teaching and practical experience; so that educational content and vocational knowledge could be related to students' learning needs for developing job competences (Fischer and Bauer, 2007, Spöttl and Loose, 2018).

THE PRACTICE

Context

In ITE Singapore, graduates are concerned about improving their employability prospects and also to upgrade through further studies. However, only about 30% of eligible graduates are offered the route to diploma studies in one of Singapore's five polytechnics annually. For ITE graduates, transitioning to polytechnics requires adjustment to more academic and less hands-on learning.

To expand the pathways for ITE graduates, the work-study pathway was introduced in 2018, through the Work-Learn Technical Diploma (WLTD) programmes, with emphasis on 'learning by doing' and also 'earn and learn'.

Under the Work-Study apprenticeship-based Programmes, Work Study Diploma (WSDip) trainees are hired by partner companies as full-time salaried staff, and 70 per cent of the curriculum time comprises on-the-job training (OJT). They are awarded diploma certificates upon successful completion of their 2.5-year studies.

Aims

The objective of adopting a work situation approach for the development of WSDip programmes is to deliver learning that is holistic, situated and contextualised to authentic work activities. The key purpose is to facilitate the transfer of learning from campus to workplace, from theory to practice and to link curricula to the work activity.

This training framework also hopes to cater for

the diverse needs of employers and workers arising from the rapid development of industrial revolution, pace of technological change while supporting the aspiration of ITE graduates in their skills upgrading journey by providing them with a progression pathway leading to a diploma qualification; which not only allow them to deepen their skills but also to foster work readiness.

IMPLEMENTATION OF THE PRACTICE

In 2019, the work study curriculum was reviewed based on a study of the Swiss curriculum model and the work situation curricular approach.



Figure 1. Work Situation Curricular Approach to Job Training Performance

Under this approach, the competency-based curriculum is:

- Designed around a set of core competencies identified by the industry;
- Centred on authentic work scenarios that serve as anchor points for linking skills, knowledge and professional attributes; and
- Assessed holistically as it is based on an actual task performed at the workplace which requires the integration of performance, application of knowledge and display of professional attributes that are based on the Critical Core Skills formulated by Singapore’s SkillsFuture movement.

For on-campus learning, work scenarios (work situations) are used as anchor points for linking knowledge, skills and professional attributes.

As the work situation is centred on a work-based problem or issue, it will provide an authentic context for meaningful learning.

Performance standards are established for each core competency where each core competency is developed to:

- Serve as an anchor point for skills training and assessment
- Create a work context to align training to industry practices
- Simulate the real work environment to close the gap between campus and workplace learning
- Provide a context for integration of skills, knowledge and professional attributes to facilitate the transfer of learning from on-campus to workplace

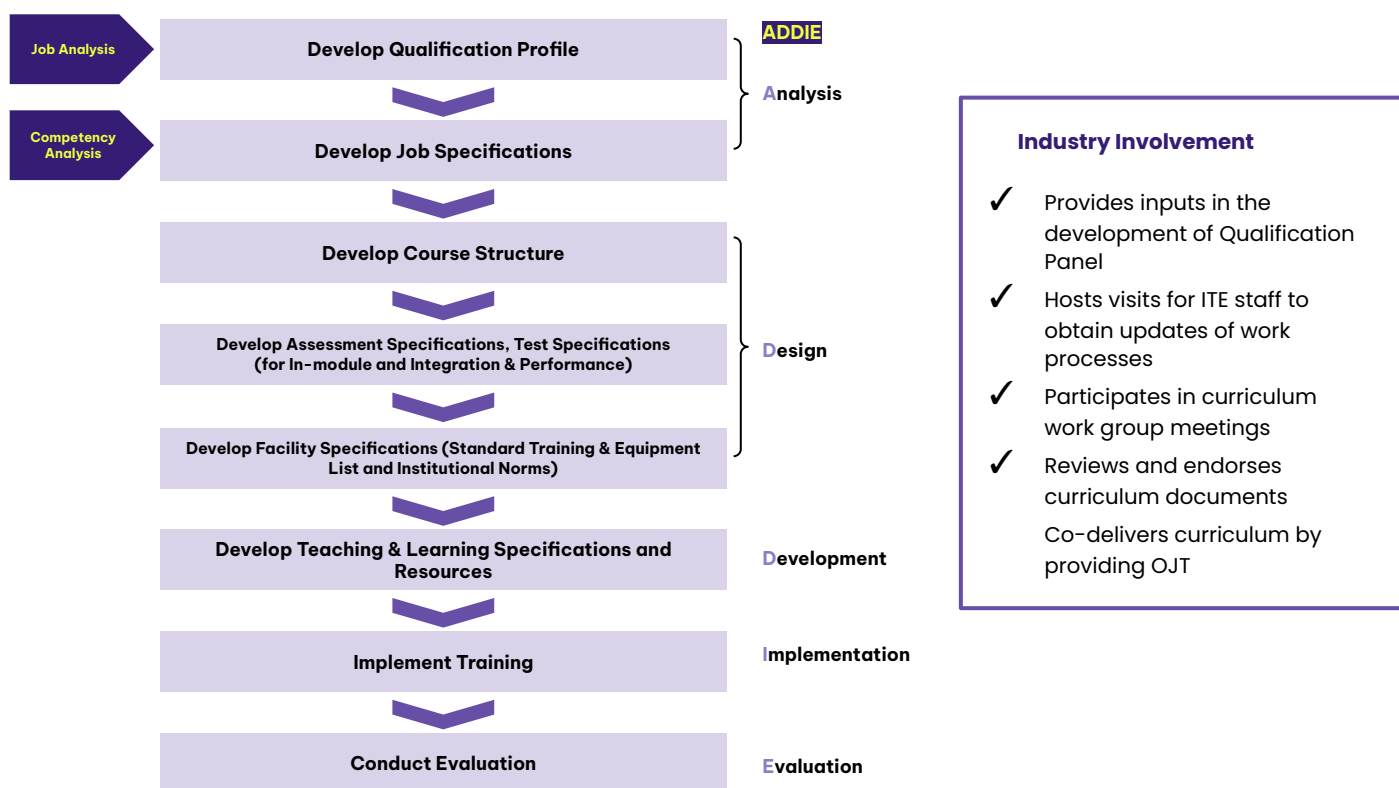


Figure 2. Employment of Work Study Curriculum based on the work situation curricular approach

Various specifications are developed in the design and development stages of the curriculum such as:

- *Job Specifications* developed and built around each area of competency to create training modules
- *Assessment Specifications* specifying the methods of assessing candidates are determined
- *Test Specifications* developed to guide setter and moderator in setting question papers within the scope of the Job Specifications.
- *Facility Specifications* comprising a **Standard Training Equipment List (STEL)** and **Institutional Norms (INs)** for the setting up of training facilities

Authentic-based assessments are carried out via assessment tasks, assessment environments and assessment criteria that are designed to closely resemble the actual work situation and context where learners are to demonstrate the application of knowledge and competencies they have mastered to accomplish performance tasks.

IMPACT

The implementation of the work study apprenticeship programmes adapted from Swiss work situation curricular approach have created opportunities for ITE to bring real work situations from workplace to training environment as well as level up the training to the workplace requirements that are based on:

- authentic job tasks pegged at the level of performance acceptable by the industry
- meaningful learning experience that is holistic, situated and contextualised mirroring the real work setting which allows for the integration of skills, knowledge and professional attributes
- integrated assessment that is authentic and performance-based to closely resemble an actual task performed at the workplace

To-date, 42 WSDip programmes have been developed across different industry sectors such as Applied and Health Science, Business & Services, Design and Media, Engineering, Electronics & Info-Comm Technology and Hospitality.

Overall, 99% of the employer respondents agree the work study programmes helped in the development of workforce talent and manpower. The survey results showed that trainees are equipped to be work-ready through applied and authentic learning; and employers are provided with work-ready employees who are familiar with company work processes.

This diploma pathways enabled graduates to get better work prospects where more than 95% of graduates were employed within six months after completion of the programmes and median salaries are shown to increase compared to what they received at the start of the programme.

Evaluation surveys conducted on cohort of trainees and employers showed successful outcomes:

➤ **Evaluation Survey**

Trainee's Performance		Results
1	Training in ITE has equipped the trainee with the necessary technical skills and theoretical knowledge to perform the OJT tasks assigned.	98%
2	Trainee is competent in performing the daily tasks assigned.	96%
3	Trainee demonstrates good work attitude in his/her work.	98%
4	Trainee takes responsibility and ownership in his/her work.	94%
5	Trainee works well with fellow peers and is a team player.	98%
6	Trainee is able to contribute to the company operations and performance.	96%
7	We foresee that the trainee will be able to be geared to higher level jobs upon his/her graduation from the WSDip programme.	96%

On-the-Job Training (OJT) Performance		Results
8	The 'Prepare & Conduct Coaching' programme has prepared out company's OJT trainers with the necessary competencies to conduct training and/or assessment.	99%
9	The List of Competencies equips the trainees with the necessary practical skills in the real work environment.	98%
10	The List of Competencies meets our company's training needs.	99%

Overall Support from ITE In Programme Administration		Results
11	ITE provides sufficient information and support to our company for the implementation of WSDip.	97%
12	The regular visits by our lecturers and constant contact with the company trainers and trainees have been effective in the overall running of the programme.	91%
13	The WSDip programme has met our company's objectives for manpower recruitment.	97%
14	WSDip is a good programme in the building of talent and manpower development for my company.	99%

➤ **Trainee Survey**

Trainees' Learning Experience at Company and On-Campus		Results
1	OJT is a useful way to learn industry relevant skills.	95.3%
2	Given different job functions to learn different skills.	93.6%
3	Company trainers guided them well to perform the work tasks.	93.2%
4	Current work deployment is meaningful and able to contribute and grow.	91.6%
5	Training at ITE has prepared them for OJT.	95.5%
6	Adjusting and managing well in the new work-study format	92.0%

LESSON LEARNT AND REPLICABILITY

The development of work study apprenticeship programmes based on work situation curricular approach can be adapted by any institution offering skills-based training. It is critical for success that the work study apprenticeship programmes be jointly developed, delivered and assessed by curriculum development specialists, lecturers, together with companies and lead industry bodies.

The effectiveness of a curriculum is dependent on how the course is systematically designed, developed and delivered to the trainees, in

alignment with the needs of the industry stakeholders. Therefore, the robustness of the curriculum development process based on extensive consultation with the relevant stakeholders, such as employers and expert workers, adds value to the curriculum offered to trainees, ensures industry relevance and a sense of ownership by stakeholders for them to provide trainees with access to the latest technology, industry knowledge and trends. This relevant work experience will give trainees a headstart in career.

FUTURE OUTLOOK

The Singapore Ministry of Education continues to scale up Work-Study programmes to enable fresh graduates to be placed in jobs where they could deepen their skills on the job and continue learning on campus. Starting from 4 courses, 41 companies and an intake of 109 trainees in 2018, the work study sector-specific apprenticeship programmes have multiplied to 42 courses in 2023, involving more than 600 companies and 1200 trainees.

To continue maintaining the relevance of the Work-Study curriculum, quality assurance measures are required to audit the development and implementation. Mandatory training for company trainers (4 day) and lecturers (2.5 days) is required to on how to prepare, guide, teach and coach trainees. A self-directed learning module has been developed and implemented to reduce the duration of the in-house training workshop to 2 days.

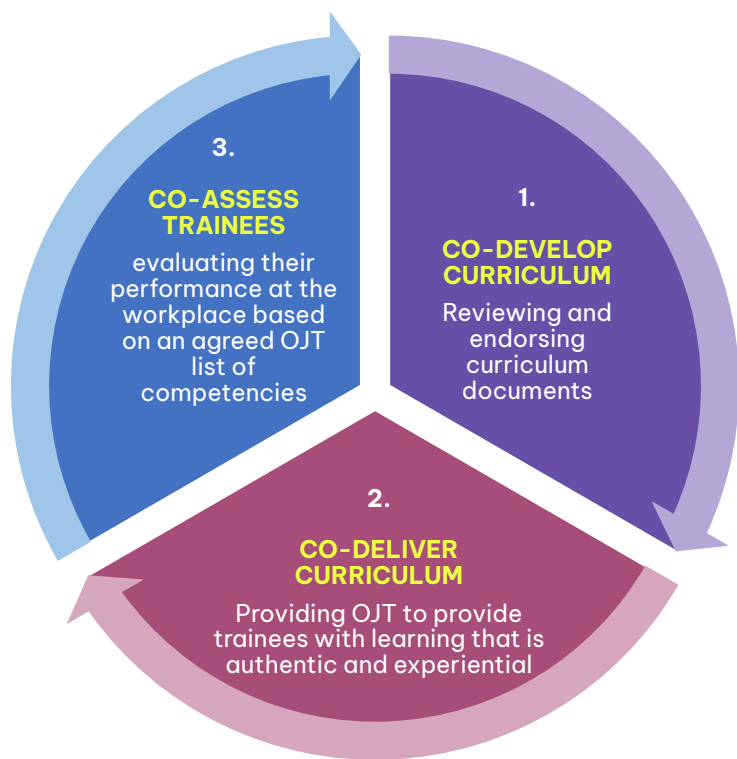


Figure 3. Joint Collaboration in the Implementation of Work-Study Apprenticeship Programmes

CONCLUSION

The Work-Study Apprenticeship Program designed with a work situation curricular approach implemented in ITE provides trainees with holistic technical training in preparation for employment, career advancement and further education.

The structured work study curriculum that is co-developed, co-delivered and co-assessed by lead industry partners and ITE curriculum staff and lecturers integrates the learning of core competencies to develop trainees' skills, knowledge and professional attributes that are essential for them to adapt to different work situations, ultimately providing graduates with career, skills progression and competitive salaries for better employability.

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FURTHER INFORMATION

Janice Lum

Project Manager, Curriculum & Educational Development Division,
ITE Headquarters,
Institute of Technical Education Singapore
Janice_Lum@ite.edu.sg
+65 6590 2338



“Good Practices” are chosen according to selection criteria that have been created by a working group. They aim to serve as benchmarks for transformation towards quality TVET. However, they reflect on the individual circumstances of the submitting country and may only be adopted with context specific modifications.

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Address : SEAMEO VOCTECH, Jalan Pasar Baharu,
Gadong BE1318, Brunei Darussalam
Telephone: +673 244 7992
Email : team@sea-vet.net

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