
Training and Adult Education landscape in Singapore: characteristics, challenges and policies

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Abbreviations and Acronyms

ACTA	Advance certificate in training and assessment
ACRA	Accounting and corporate regulatory authority
AE	Adult educator
AEN	Adult education network
AEP	Adult education professionalisation
CDG	Capability development grant
CET	Continuing education and training
CEO	Chief executive officer
CITREP	Critical infocomm technology resource programme
CPE	Committee for Private Education
DACE	Diploma in adult and continuing education
HRD	Human resource developer
ICT	Information and communication technologies
IHL	Institute of higher learning
ITE	Institute of technical education
MIPD	Manpower & infrastructure planning division
MOE	Ministry of Education
MOM	Ministry of Manpower
PD	Professional development
PEI	Private education institution
PET	Pre-employment training
PME	Professionals, managers and executives
PSEI	Post-secondary education institution
PSTI	Public sector training institute
SAPTCO	Strategic Association of Professional Training-Consulting Organisations
SCN	SkillsConnect
SDAF	Specialist diploma in advanced facilitation
SFC	<i>SkillsFuture Credit</i>
SME	Small and medium enterprise
SSIC	The Singapore standard industrial classification
STADA	Singapore training and development association
TAE	Training and adult education
TM	Training manager
TP	Training provider
WDA	Singapore Workforce Development Agency (a former statutory board under the Ministry of Manpower of the Singapore Government)
WSQ	Workforce skills qualification
WTP	Workplace training programme

Executive Summary

This is the first national study to gather baseline information about the organisations and professionals working in the Training and Adult Education (TAE) sector, including their profile, practices and challenges, as well as the impact of government policies and initiatives on them. Data was collected via face to face survey from July 2017 to May 2018. Follow-up focus group discussion was conducted in January and February 2019 to complement the questionnaire survey and probe deeper and on some of the themes that emerged from the questionnaire data. Key findings include:

Training providers' (TPs) profile

TAE training providers offer a wide range of programmes and could be categorised into two major types namely, WSQ training providers and non-WSQ training providers. Close to 95% of the TP respondents are small-medium enterprises with less than 200 employees. Almost half (45.8%) of these had less than 10 employees.

- About 64% of the TPs had a yearly turn-over of less than \$1 million. Almost 30% of TPs earned between \$1mil and less than \$10mil.
- 94% (n=305) of TPs in Singapore were locally owned, among which 18.7% (n=57) have international presence or subsidiary / branch in other countries.
- A third of the TPs were progressive in adopting up-to-date¹ technologies, leading the way in developing new products, highly customising their products and services to client's needs, and having least dependency on price to gain competitive success.
- At least half of the TPs reported increase in client satisfaction, revenue, profitability, employees learning new skills and spending on innovation and technology over the last 12 months. In terms of business outlook, more than half of the TPs expect to increase their revenue in the next 12 months, while less than 15% of TPs expect a decrease in revenue over the same period.

TAE professionals' profile

- There are mainly three groups of TAE professionals, namely the adult educators (AEs), training management professionals (TMs), and human resource developers (HRDs). The AEs' main work includes curriculum design, training facilitation, assessment, and the learning & performance consultancy (such as linking learning to business outcomes, identifying skills gaps, reducing gaps / lapse in business processes, analysing organisational business needs and indicators of business performance). TMs oversee training management that includes programme management, manpower, training resources, quality assurance, compliance and administration. HRDs build employee capacity and human capital to support business needs. This includes learning and development, talent management, performance management, organisational development and human resource planning and implementation.
- There were about 40% AEs working as full-time staff in training organisations. Almost 30% were freelancers, and 22% were industry practitioners who work in sectors other than the TAE sector but doing training/education-related work as a secondary role.
- More than 70% of AEs and TMs performed more than one role in their work, while 65% of HRDs performed more than one role in their work. Major functional roles for AEs include training facilitation, assessment, curriculum design and development, training/learning needs analysis, and administration. However, we found only a small proportion of TAE professionals perform specialised tasks, for example, only 25% of AEs are providing learning

¹ Up-to-date learning technology include but not exclusive to: augmented realities, virtual realities, learning management systems, artificial intelligence, etc.

and performance consultancy and only 4% of TMs currently perform sales and business development roles.

- Our TAE professionals are highly qualified in terms of academic qualifications (with 91% of them having at least diploma) and training qualifications (with 83% of them having at least 1 WSQ training qualification or equivalent). They are also quite experienced with at least half of them having more than five years of TAE-related working experience. However, only 1 in 3 AEs currently still hold an industry position other than TAE.

Job quality of adult educators

- Majority of adult educators reported favourable scores in most of the six dimensions of job quality that were used in this study with 82% confident of not losing their job, 8 in 10 reported high level of job autonomy, 67% reported good career prospect, and a higher than the national median² monthly income of \$4150.
- Comparing AEs based on their employment status, full-time AEs scored higher in pay, career prospects and job security than freelancers, despite experiencing more intense work and having less autonomy than freelancers.
- However, when compared with other professionals (data comes from IAL Skills and Learning Survey, see <https://www.ial.edu.sg/access-research/research-at-ial/research-projects.html>), the job quality of full-time AEs seems to be worse off, with relatively lower median income (by -\$1,463), less complex job (by -7%), lower autonomy (by -6%), more intense work (by 27%), lower career prospects (by -7.5%), although they have similar job security.
- Freelance AEs earned slightly more than the national average of freelancer professionals (e.g., Fashion, Garment and Product Designers, Financial and Investment Advisers, Advertising and Marketing Professionals, Visual Artists, etc) with better work prospects and higher job security. However, freelance AEs have less autonomy in making decisions at work, although their work is much more intense and complex in nature.

Blended learning, use of learning technologies and business innovation

- 82% of training providers participated in at least one of the four areas of business innovation (product, process, organizational and marketing innovation) in the last 12 months when the survey was conducted.
- Compared to training providers that did not innovate at all, a larger proportion of training providers that innovated in all four areas reported an increase in business performance.
- A considerable proportion of training providers (47%) and adult educators (77%) reported using learning technologies in their training related work. However, learning technologies seem to be primarily used for one-way knowledge transfer, rather than connecting learners to learners or contextualised for learning (e.g. rare use of virtual classroom or simulations such as augmented reality or virtual reality). The finding imply that training might be more content-driven, which may not be linked to better learner experience or deep learning.
- Though 24% of training providers and 40% of adult educators adopted blended learning (where classroom-based learning is integrated with tech-enabled learning and/or workplace learning) in their programme and services, about 30% of the training providers and adult educators were still doing classroom-based training only.
- Of the 72% of training providers who spent on technology and automation in the last 12 months, they also indicated willingness to invest in technological and automation enhancements in the next 12 months.

² S\$3,300 was the overall 2017 national median gross monthly income (without employer CPF) from work of employed residents aged 15 years and above: (Source: Comprehensive Labour Force Survey, Manpower Research & Statistics Department, MOM. <http://stats.mom.gov.sg/Pages/IncomeTimeSeries.aspx>)

- Lack of skilled personnel and cost constraints were cited as top challenges for training providers to adopt innovation. About half (53%) of training providers reported that cost was either a reason behind why they did not use any form of learning technologies, or that it was a factor that hampered the organisation's ability to innovate.

Skills and professional development

- The top 5 skills that AEs self-reported to be proficient in were subject knowledge, teamwork, communication, problem-solving, and facilitation/training for classroom-based learning. The skills that they felt least skilled included learning analytics, entrepreneurship, curriculum design and development for e-learning, assessment for e-learning, and learning and performance consultancy.
- Generic skills were always in the top five list when it comes to the self-reported skills proficiency and they were considered as important skills for the work of TAE professionals.
- Digital literacy and tech-enabled learning were identified by the TAE professionals as top areas for improvement and needed to ensure that they are kept up-to-date on the emerging training and learning trends.
- High participation rates in professional development by AEs were observed in the areas of domain knowledge (subject knowledge (76%) and industry knowledge (66%)), communication (71%), classroom-based facilitation (66%); while the least participated in were in the areas of learning analytics (38%), entrepreneurship (38%), learning and performance consultancy (40%), and assessment for e-learning (40%).
- About 1 in 3 AEs reported lack of access to professional development as one of the challenges in their profession. The reported barriers included: cost of the professional development activities (63%), conflicts with work schedules (63%), and no incentive for them to participate (53%). Almost half (47.7%) of AEs indicated that they did not need to pay for their professional development at all. 1 in 5 AEs needed to pay over half of the cost of their professional development activities.

Awareness of TAE policies and challenges

- The awareness of TAE related programmes or initiatives³ was low among both TPs and TAE professionals.
- The policies that TPs and TAE professionals tapped on most were SkillsFuture Credit and WSQ system. A sizeable number of AEs (37%) did not tap on any of the initiatives/policies in the past 12 months.
- Time consuming was the most reported challenge that TPs and TAE professionals faced in tapping the TAE initiatives and policies. Other challenges included lack of information, complicated application process and difficulty in meeting the criteria.

Challenges faced by training providers and TAE professionals

- The top challenges that TPs reported they face in the TAE sector were: overall business challenges such as market competition and government-related regulations (66%), operational challenges such as allocation of resources and delivery of products and services (57%), and HR-related challenges such as recruitment of qualified trainers (39.5%). About 17% of TPs reported not having any challenge at all.
- For AEs, top challenges in their profession include: staying competitive in the training market (46%), uncertain career trajectories (41%), difficulty in responding to the changes in TAE

³ The initiatives listed in the questionnaire were: SkillsFuture Credit, SkillsFuture Study Award, SkillsFuture Earn and Learn, Adult Education Network, Enhanced Training Support for SMEs, Capability Development Grant, English @ Workplace, iN.LEARN 2020, Workforce Skills Qualifications System, Training and Adult Education Professional Competency Model, Adult Education Professionalisation. See Chapter 8 for details.

market (34%), lack of work-life balance (32%), and lack of access to professional development (31%). Almost 3 in 10 (28%) AEs reported the lack of access to continuous flow of work.

The findings provide TAE providers and AEs with an understanding of the environment in which they work, thereby potentially contributing to their strategic decisions about their personal career trajectories and organisational business development. It will also potentially enable TAE providers to better manage their programmes offerings and business models.

The findings provide some implications to policy and practice as well. The information about the skills proficiency and professional development needs can be useful reference for the design of needed professional development programmes. For policy makers, understanding the challenges faced by the practitioners can help them improve existing policies, design new initiatives, and roll out well calibrated interventions where necessary.

The results of the TAE landscape study provide us a clearer picture about the training providers and training professionals especially of adult educators. It is important that the survey is repeated every few years to build up trending data to monitor labour market changes in the TAE sector and enhance the ways of assisting the development of the TAE sector.

1. Introduction

1.1 Background

Singapore is sometimes described as a 'little red dot' with a total land area of less than 720km² and a population of 5.6 million (Department of Statistics Singapore, 2017). As a city-state with limited natural resources, human resource is considered to be one of Singapore's largest and most valued assets. Therefore, Singapore places significant emphasis on education and continuing education to support skills development and develop a resilient and future ready workforce that is both relevant and competitive in a rapidly changing global economy.

In 2010, the Economic Strategies Committee highlighted that the Singapore workforce has to deepen its expertise within every sector of the economy (ESC, 2010, par 21). Recently, the Committee on the Future Economy Report of 2017 emphasised not only the continuity of deepening workers' expertise but also on strengthening skills utilisation, as well as continuously deepening and refreshing skills through modularised and technology-enabled learning programmes. The TAE sector is tasked to provide Singaporeans opportunities to develop deep skills and gain mastery to raise workforce productivity, promote employability, competency and resilience through a culture of lifelong learning (SkillsFuture, 2018a).

Much attention has been given to the economic and labour market outcomes of training and education such as workers' employability and productivity, or higher wages and better job opportunities (Martínez-Cerdá & Torrent-Sellens 2017; EAEA, 2017; Gambin & Hogarth, 2016; Alsebou, 2010; ILO, 2010;), but its benefits need not only be about economic or pecuniary in nature. Many studies proved that learning through formal education or continuing education and training (CET) leads to other personal and social benefits such as better well-being, behaviour, health, attitudes; as well as, increased job satisfaction and civic participation, and other wider benefits (Bercu, 2017; Alshebou, 2010; Vuta & Farcas, 2015; Gambin & Hogarth, 2016; EAEA, 2017; Feinstein, 2003). An example of wider benefits of training is when personal soft skills such as social and communication skills were developed during the course of training; these skills contribute to the development of social networks which formed a key part of the wider benefits of learning. Training also increased an individual's social identity (Brum, 2007) which is related to notions of identity and social capital. It is also a form of personal empowerment because the development of skills and knowledge gained equip learners to deal with their lives (Preston & Hammond, 2003). A recent example on health improvements was cited in a 2008 summary of research findings from several studies on wider benefits of training showing that an estimated 116-134 cancers could have been prevented for every 100,000 women enrolled in adult learning in UK (Feinstein, Budge, Vorhaus, & Duckworth, 2008). On a community level, the same document reported that based on the analysis of crime data done in 2002, one percentage point increase in the working-age population with O-level or equivalent qualifications could reduce the annual crime cost (incarceration costs and victims' costs) by up to £320 million. All these findings prove education and lifelong learning is not only a crucial component to the success of the economy but also for the well-being of individuals and society.

To facilitate and encourage lifelong learning among people in the workforce, the Singapore government launched the national SkillsFuture Movement in 2016 offering a series of programmes and funding opportunities such as SkillsFuture Credit (a \$500 training credit for each Singaporean), SkillsFuture Study Awards (\$5000 monetary award for mid-career Singaporeans to deepen their skills), SkillsFuture Mid-Career Enhanced Subsidy (a 90% subsidy on course fees for 40 years old and above), Earn and Learn Programmes (opportunity for polytechnics and ITE fresh graduates to learn industry experience while earning income), Lifelong Learning centres set-up in five universities to provide industry-relevant courses for adult learners and iN.LEARN 2020 (an initiative to catalyse

the adoption of blended learning in the TAE sector). These efforts are undergirded by the mission of SkillsFuture Singapore to develop a responsive and forward looking TAE and workforce development system that can help steer Singapore through uncertainties and challenges.

Though local research has provided us with some understanding of TAE professionals and their practice (Brown, Karmel & Ye, 2013; Freebody, Bound & Lin, 2013; Karmel, Bound & Rushbrook, 2013; Tan & Freebody, 2011), our knowledge of their profile at the national and sectorial level is still limited. For example, what tasks do they mainly perform? What TAE providers do they currently serve? What qualifications and experiences do they have? What is their work quality? What are their needs for professional development (PD)? Do they have sufficient access to PD? What are their preferred modes of learning for PD? What are their challenges to survive and thrive in the changing TAE market? Are they ready for more blended learning as we move towards a technology-enabled TAE? How do they respond to TAE policies and initiatives, such as iN.LEARN 2020. These are important missing pieces in our knowledge about the TAE professionals which this study is trying to address.

The knowledge gap about training providers (TPs) is even more acute. We do not have a clear picture of their profile, business models and strategies to strengthen operational efficiency and processes. How do they deliver training? How do they innovate programme offerings and establish partnerships? How do they manage their manpower resources and skills development? What are the challenges they face in rolling out blended learning? Are they ready for technology-enabled learning and development and use of analytics? Are they aware of TAE-related initiatives and policies? What challenges do they have when tapping on those initiatives and policies?

In order to support the TAE sector's development in a systematic, integrated and holistic manner, it is important for us to gain a better and deeper understanding of the current state of the TAE sector. This study provides the baseline information of the profile and practices of TAE professionals and providers, their beliefs on learning and development, challenges and barriers for development, and how they perceive TAE-related policies. The results of this study will help to close the above mentioned knowledge gaps about TAE in Singapore.

1.2 Focus of the study

This project addresses many of the missing pieces in our current knowledge about the TAE providers and professionals, who are the key players of the TAE sector, and therefore the research focus of this study.

A short description of the TPs and each group of TAE professionals, namely, adult educators (AEs), training managers (TMs), human resource developers (HRDs), are provided below; the detailed profile of them as gathered from this study are presented in the next chapter.

TAE providers. TAE providers are the training organisations and companies that TAE professionals work in. In our study, we sought out Training Providers that provide adult continuing education and training as their main business. Given this focus, we excluded: enrichment or tutoring centres, music/art schools, private education institutions that offer pre-employment education and degree program, and sports training. There are seven main categories of TAE providers identified for our study: government-approved training providers, private education institutes, post-secondary education institutes, public sector training institutions, private training organizations, association and professional bodies' training arm/functions, in-house and others (IAL, unpublished). These organizations provide a wide range of programmes, covering both private and public sector and stretch from PET (Pre-employment Training) to TAE. With no clear-cut boundaries existing between PET and TAE and the distinctions increasingly blurring, there could be more overlaps between the

offerings of these organizations (Karmel, Bound & Rushbrook, 2013). The firms in the TAE sector in Singapore are characterized by network organizational forms, as opposed to hierarchical forms; given that about 80% of firms (mostly public and non-profit firms) engage a large number of external TAE professionals, for example freelance AEs (Chng & Freebody, 2014). In light of the fragmented and dynamic TAE sector, any company that provides adult continuing education and training as a main business were invited to participate in the survey in our attempt to reach out to the whole universe of TAE providers as much as possible.

TAE professionals. The TAE professionals in Singapore cover in the study were mainly involved in adult education, training management and human resource development. According to the Training and Adult Education Professional Competency Model (IAL, 2013), they perform differentiated roles as follows:

- Adult educators (AEs): involved in direct activities of development and training of the workforce, which may include analysis, design, development, facilitation and assessment.
- Training managers (TMs): manage a training institution which includes the management of programmes, curriculum, assessment, training resources, manpower, learning systems, quality assurance, compliance and administration.
- Human resource developers (HRDs): involved in the design and conduct of research to inform practice and policy formulation, development and implementation of competency frameworks and models, courseware quality accreditation and audit and employment facilitation.

1.3 Objectives of the study

The main objective of this study is to gain a better understanding of the TAE sector in Singapore by providing baseline information about the organisations and professionals working in the sector, including their profiles, beliefs, practices and challenges they face, as well as the impact of government policies and initiatives on their TAE practices and development. Specifically, it aims to answer the following research questions (RQ):

- RQ1. What kinds of TAE providers are out there and what are their key characteristics and business models?
- RQ2. Who are our TAE professionals (AE, TM and HRD roles) and what are their profiles?
- RQ3. What are the beliefs and practices of TAE professionals and providers in designing, developing and delivering TAE programmes?
- RQ4. What are the challenges faced by TAE professionals and providers?
- RQ5. How do TAE professionals and providers perceive TAE-related policies and initiatives? How do these inform their practices and development?

1.4 Structure of the report

This report started with an introduction stating the background and focus of the study, followed by methodology and presentation in each chapter of the findings. It concludes with implications for policy and practice to support the development of the TAE sector in Singapore.

2. Methodology

2.1 Research Approach

This study adopted a mixed method approach (Creswell, 2003) using both quantitative and qualitative data to answer our research questions. With the development and perceived legitimacy of both qualitative and quantitative research in the social and human sciences, mixed methods research is gaining popularity across diverse disciplines, especially over the past decade (Hesse-Biber, 2010). Major reasons why researchers should consider using a mixed methods approach include:

- i. it offers strengths that offset the weaknesses inherent within quantitative or qualitative research approach when used alone by itself (Creswell and Clark, 2011);
- ii. it holds the potential to collect more comprehensive data by using all available methods;
- iii. it allows the researcher to gain a fuller understanding of the research problem and / or to clarify a given research result (Hesse-Biber, 2010).
- iv. quantitative data can assist qualitative researchers by providing them with a broader context within which to establish generalizability of qualitative results.
- v. qualitative data can illuminate the meaning of statistical results by adding an in-depth understanding to quantitative research findings.

These reasons highlight the power and synergy of using mixed methods in tackling complex problems that call for answers beyond simple numbers in a quantitative sense or words in a qualitative sense. In this study, questionnaire survey, focus group discussions and interviews are used to collect data from the TAE professionals (AEs, TMs and HRDs) and providers.

2.2 Sampling

As there was no established sampling frame for the training providers and TAE professionals, we first constructed two sampling frames from all known possible sources. The sampling population when the project was approved included 914 training providers and 5,693 professionals with at least one contact information. We have since then worked rigorously with stakeholders to update the sampling frame and try to reach out to the whole known TAE universe. As of September 2018, we have built up our sampling frame that consists of 3,019 known TPs in Singapore and 19,454 TAE professionals.

2.3 Survey questionnaire

Using random selection from these two sampling frames, we administered a contextualised survey questionnaire to each of the TAE groups of professionals and to the training providers. For the TAE professionals, we further used screening items to identify their core functional role (AE, TM, HRD) to route them to the relevant questionnaire designed for their role.

We conducted a pilot study from January 2017 to April 2017 to test the reliability of the instruments before they were rolled out for the main study. Using data from the pilot study, we examined the internal consistency of the scales of various constructs to check whether the items that make up the scale measure the same underlying construct (Pallant, 2007). In addition, the psychometric quality of the questionnaires was examined through Rasch measurement (Rasch 1980), which offers

procedures for constructing and revising measurement instruments and documenting their properties such as reliability and construct validity.

After the questionnaires were finalized, we conducted the main survey, which took place from July 2017 to May 2018. 326 CEOs or representatives of senior management from the TAE providers responded to our Training Provider survey, which represents a 21.2% response rate, while 535 AEs, 252 TMs, and 138 HRDs responded to our AE, HRD, and TM surveys respectively, representing 25.5% response rate.

2.4 Focus group discussions

Although the surveys allowed collection of a large amount of data in a relatively short time, they often provide superficial data due to the fact that items are simplified sufficiently to be easily understood by respondents and the limited time respondents tend to spend on answering questions (Dörnyei, 2007). Therefore, follow-up focus group discussions (FGDs) were conducted to complement the questionnaire survey and probe deeper and on some of the themes that emerged from the questionnaire data. The focus group discussions were voice-recorded and transcribed for analysis.

One of the strengths of conducting a FGD is that it creates an important social space for interviewees to interact with each other. This interaction could enable interviewees to challenge each other, effectively generating data and insights that would not otherwise be accessible to the researcher in individual interviews (Gillham, 2005; Robinson, 2012).

The FGDs sessions were conducted in early 2019 after preliminary analysis of the survey data was completed. Altogether, we conducted 11 sessions, including 15 training organisations and 71 TAE professionals. On average, the duration of each focus group discussion lasted approximately 2 hours.

2.5 Data analysis

We first examined the various constructs using factor analyses and Rasch Model for the fit, validity, and reliability of the measurement models. We also conducted preliminary analysis, including descriptive statistics and data visualization in the form of various graphs to describe and explore the data. We used correlation analysis to explore the relationship among different groups of variables. For open-ended answers, we applied textual analysis, which were manually coded with the software Nvivo.

The conversations and interactions during FGDs were audio-recorded and transcribed for qualitative analysis. Firstly, data was carefully read for open coding to form initial categories, during which each relevant statement was organised under its corresponding code. The initial categories were refined by reviewing open coding with what was identified in the literature review to form a coding scheme. Axial coding (inter-coding or identifying relationships among the codes) was the next step, when data was examined further and new category/code was developed (Strauss & Corbin, 1998). Patterns of the codes were searched and explained, after which selective coding of both contradictory and confirmatory data was conducted to avoid confirmation bias. Finally, key themes were generated and interpreted. It is an interactive process of data analysis, combining constant comparative content analysis and generation and development of category/code/theme. To achieve consistency and reliability, inter-rater reliability (Kappa coefficient) was checked.

Data triangulation (O'Donoghue and Punch, 2003) was applied to achieve trustworthiness in the analysis. Overall findings were corroborated with findings from the surveys and those from the focus group discussions.

The next chapters present the main findings of the study. We will first give an overview of the profile of training providers and professionals. We then focus on the job quality of adult educators, pedagogical innovations and business innovations of TAE providers and professionals, as well as the skills and professional development of the professionals. Lastly, we present the challenges faced by training providers and professionals and their awareness or unawareness of the TAE related initiatives.

3. Profile of training providers

As the TAE sector is developing and transforming constantly, our study aims to provide a clearer profile of the Training Providers (TPs). Based on our data from 326 surveyed TPs, we will report their profile in the following aspects:

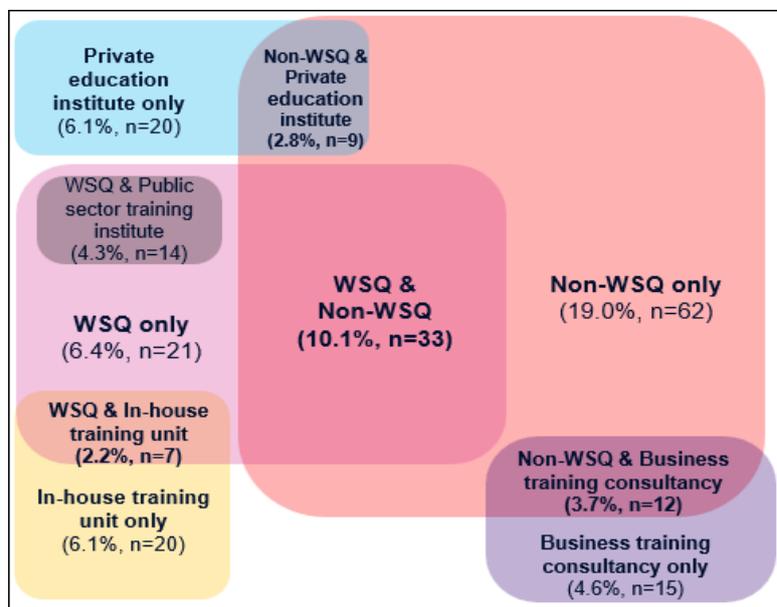
- Type of training providers;
- International presence;
- Firm size;
- Revenue;
- Business strategies; and
- Business outlook.

3.1 Type of training providers

Out of the 326 TPs that participated in our survey, about 57% of TPs offered at least one WSQ programme, and the other 43% were non-WSQ TPs, which did not offer any WSQ programme at all. In fact, many training providers provided multiple programmes and services and therefore fell into more than one category.

When we asked respondents for the best description they have for their organisation, we found 88 combinations and presented those categories with more than 5 TPs in this graph. The 11 CET arms in Institutes for Higher Learning (IHLs) were scattered across the different groups.

Figure 1: Programmes and services offered by training providers



We think this diagram gives us a picture of the offerings in the sector. The business and training consultancy providers will be a group to watch. Though only less than 10% of the TPs currently provide such consultancy services, we expect them to grow in number in the years to come: besides highlighting the increasing demand for customised learning and business solutions from their clients during the FGD, TPs also expressed strong demand for their adult educators to be equipped with such consultancy skills. The relevance of such skills is acknowledged in the national TAE Skills

Framework, which was developed in consultation with stakeholders from industry associations, training providers, organisations and unions.

3.2 International presence

Among the TP respondents, 94% (n=305) were locally owned companies, and 18.7% (n=57) of these have international presence or subsidiary / branch in other countries. About half of all the TP respondents have established or have concrete plans to establish partnerships with overseas training institutions to enhance their products and services and improve business performance. In the focus group discussions, many private TPs expressed the need to go overseas as the Singapore market is small. The quality of Singapore education being well recognized in the region is helping to pave the way for their expansion overseas.

3.3 Firm size

Almost half (45.8%) of the TPs have less than 10 employees, while a third of the TPs employed between 10-49 employees. See Table 1 below for the firm size for the different types of TPs.

Table 1: Firm size by types of training providers

Firm size	Overall (n=236 ⁴)	WSQ TP (n=124)	Non-WSQ TP (n=91)
1-9	45.8% (n = 108)	33.9% (n = 42)	60.4% (n = 55)
10-49	36% (n = 85)	41.1% (n = 51)	29.7% (n = 27)
50-99	9.7% (n = 23)	12.9% (n = 16)	6.6% (n = 6)
100-199	3% (n = 7)	4.0% (n = 5)	2.2% (n = 2)
>=200	5.5% (n = 13)	8.1% (n = 10)	1.1% (n = 1)

3.4 Revenue

Overall, 63.8% of the 185 TPs who shared their revenue details, reported their annual turnover as less than S\$1 million. 28.7% of TPs had an annual turnover of \$1 million but less than S\$10 million. Table 2 presents the revenue by different types of TPs.

Table 2: Revenue by types of training providers

Revenue	Overall (n=185 ⁵)	WSQ TP (n=100)	Non-WSQ TP (n=77)
<S\$50k	15.1% (n = 28)	12% (n = 12)	19.5% (n = 15)
S\$50k-<S\$100k	14.6% (n = 27)	10% (n = 10)	20.8% (n = 16)
S\$100k-<S\$500k	14.6% (n = 27)	12% (n = 12)	18.2% (n = 14)

⁴ Only 236 TPs out of 326 indicated their employment size.

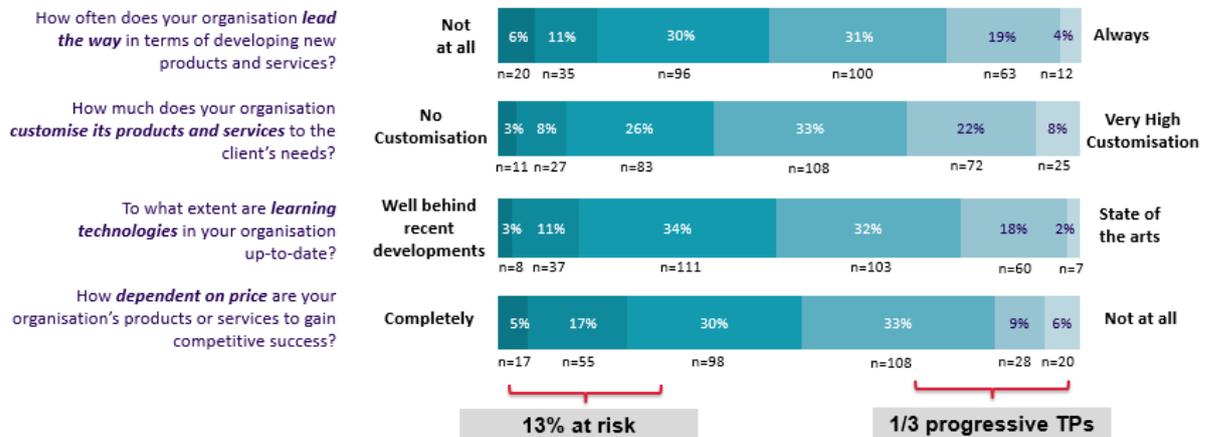
⁵ Not all 326 TPs indicated their revenue

		(n = 12)	(n = 14)
S\$500k-<S\$1m	19.5% (n = 36)	19% (n = 19)	20.8% (n = 16)
S\$1m-<S\$10m	28.7% (n = 53)	37% (n = 37)	16.9% (n = 13)
S\$10m-<S\$50m	4.3% (n = 8)	7% (n = 7)	0
S\$50m or more	3.2% (n = 6)	3% (n = 3)	0

3.5 Business strategy

Figure 2 shows the business strategy of the TPs. The six colour codes represent a rating scale of 1 to 6 with 6 (rightmost colour) being the most favourable answer. Overall, a third (n=108) of the TP respondents were doing well in the four areas, namely, adopting up-to-date technologies, leading the way in developing new products, highly customizing their products and services to clients' needs, and being least dependent on price to gain competitive success. We labelled them as 'progressive TPs' as compared to 13% (n=43) of the TPs who were doing least in all of these four aspects. Among these TPs, 90% were micro-SMEs with an annual revenue of less than \$1 million and 55% had less than 10 employees. This group is deemed as being at risk of being unsustainable in the long run as the TAE sector is being pushed towards transformation and to respond to changing industry and workforce needs.

Figure 2: Business strategies of training providers



3.6 Business performance

More than half of the TPs reported increases in terms of total sales, client satisfaction, and employees learning new skills in the last 12 months, see Table 3.

As expected, among the TPs that report increase in the different measures of business performance, there were more progressive TPs than other groups. For example, of those that reported increase in profit, 41% were progressive TPs while only 10% were at-risk TPs. Similarly, those that reported increase in market share, 44% were progressive TPs and only 8% were at-risk TPs.

Interestingly, a good proportion of TPs that highly customise their products and services reported increase in different areas of business performance, even if they were just average or less than average on the other 3 areas of business strategy (developing new products and services, with up-to-date learning technologies, and price independence). We could infer that if TPs could not perform or 'score' well in all four areas of business strategy, focusing on customisation of products and services could bring more business and profit, at least in the short term of the last 12 months.

Among the TPs at risk, we noticed that a high proportion still reported increase in different business performances, e.g., 40% reported increase in profit, 26% reported increase in market share, 33% reported increase in spending in innovation and technology. With positive business reports by this group of at-risk, we could infer that there could be possible important other elements in the TAE business that were not captured by the four aspects we were zooming in. Possible aspect could be the generous financial support from the government to TAE sector through different initiatives such as the SkillsFuture programmes. Among those TPs who were at-risk and yet reported increase in profit, 59% reported being dependent of funding irrespective of the extent; and among at-risk TPs with increase in market share, 64% reported dependence on government funding. The government funding could therefore be helping the TPs stay in business despite not adopting any four different aspects of business strategy. The question is then, how sustainable these TPs are if there is a change in the funding provisions.

Table 3: Training providers' business performances over the past 12 months

		Decrease		No Change		Increase	
		%	<i>n</i>	%	<i>n</i>	%	<i>n</i>
Profitability	<i>WSQ</i>	19.7	34	30.6	53	49.7	86
	<i>Non-WSQ</i>	19.9	26	32.1	42	48.1	63
	<i>Overall</i>	19.3	63	30.7	100	50.0	163
Total Sales	<i>WSQ</i>	16.8	29	29.5	51	53.8	93
	<i>Non-WSQ</i>	20.6	27	27.5	36	51.9	68
	<i>Overall</i>	18.1	59	28.2	92	53.7	175
Market Share	<i>WSQ</i>	14.5	25	43.4	75	42.2	73
	<i>Non-WSQ</i>	12.2	16	47.3	62	40.5	53
	<i>Overall</i>	13.8	45	44.2	144	41.4	137
Time To Market For Products & Services	<i>WSQ</i>	10.4	18	48.0	83	41.6	72
	<i>Non-WSQ</i>	10.7	14	43.5	57	45.8	60
	<i>Overall</i>	10.5	32	46.1	140	43.4	132
Staff Strength	<i>WSQ</i>	16.2	28	43.9	76	39.9	69
	<i>Non-WSQ</i>	12.2	16	45.8	60	42.0	55
	<i>Overall</i>	14.4	47	44.2	144	41.4	135

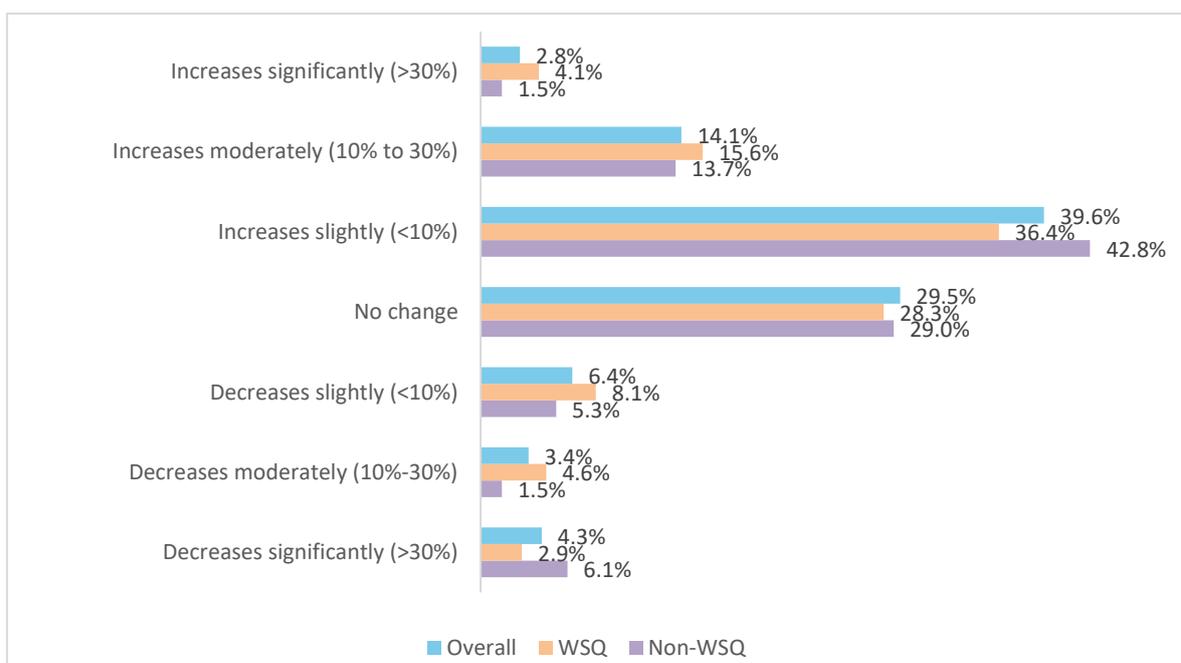
Client Satisfaction	<i>WSQ</i>	4.6	8	29.5	51	65.9	114
	<i>Non-WSQ</i>	3.8	5	33.6	44	62.6	82
	<i>Overall</i>	5.2	17	30.7	100	64.1	209
Spending In Innovation And Technology	<i>WSQ</i>	9.8	17	36.4	63	53.8	93
	<i>Non-WSQ</i>	5.3	7	49.6	65	45.0	59
	<i>Overall</i>	8.3	27	40.8	133	50.9	166
Number Of Employees Learning New Skills	<i>WSQ</i>	4.6	8	39.9	69	55.5	96
	<i>Non-WSQ</i>	5.3	7	45.0	59	49.6	65
	<i>Overall</i>	5.2	17	41.7	136	53.1	173

A higher proportion of WSQ TPs than Non-WSQ TPs reported increase in expenditure in innovation and technology and number of staff learning new skills, which may contribute to higher productivity and help to cut down the number of employees needed in the organisation. That may be the reason why a higher proportion of WSQ TPs reported a decrease in their staff strength.

3.7 Business outlook

More than half (56.9%, $n = 173$) of the TPs expected increases in revenue in the next 12 months. A slightly higher proportion of WSQ TPs than Non-WSQ TPs expected to see a significant increase in their revenue (>30% increase). Only less than 15% of the TAE providers would expect some decrease in revenue, see figure 3.

Figure 3: Training providers' business outlook (revenue) over the next 12 months



Among those reporting positive outlook (increase in revenue), 38% of them were progressive TPs while 11% were at-risk TPs. Again, this could be something that could be explored further to find out

the factors that support their positive outlook beyond the four aspects of business strategy. Among those who may be at-risk yet reported positive business outlook, 65% were dependent of government funding irrespective of the amount, a quarter reported that more than 80% of their business were dependent on government funding.

3.8 Summary

To sum up, the TAE sector is dominated by the private sector and close to 94% were locally owned. About 57% of TPs offered at least one national WSQ programme, and 74% tapped on various government schemes and funding. Among all the TPs that answered our survey, two thirds were micro-SMEs with an annual turnover of less than S\$1 million.

While 18.7% (n=57) of locally owned TPs already have international presence or subsidiary / branch in other countries, another 50% were planning to establish partnerships with overseas training institutions, with the aim to enhance their products and services and improve business performance.

About one third of TPs adopted up-to-date technologies, led the way in developing new products, highly customized their products and services to clients' needs, and were least dependent on price to gain competitive success. In contrast, 13% of TPs were doing least in all these four aspects and may be at risk of being sustainable in the long run. Of the at-risk TPs that reported increase in business performance and positive business outlook, around 60% them were dependent on government funding to varying extent.

4. Profile of TAE professionals

In Singapore, TAE professionals mainly work in the areas of adult education as well as training management and human resource development. Their roles as described in the Training and Adult Education Professional Competency Model (IAL, 2013) and Skills Framework for Training and Adult Education (SkillsFuture, 2018) are:

- AEs in Singapore perform diverse roles such as trainers, teachers, lecturers, educational managers, coaches, coordinators, learning and performance consultants, assessors, curriculum designers and facilitators and interact with learners from a wide range of industries.
- Training managers (TMs) oversee training organisation, which is inclusive of program management, curriculum assessment, training resources, manpower, learning systems, quality assurance, compliance and administration.
- Human resource developers (HRDs) perform tasks related to the strategic conceptualisation and creation of human resource strategies to build employee capacity and human capital to support business needs. This includes aspects like learning and development, talent management, performance management, organisational development and human resource planning and implementation.

In this chapter, we report findings related to our TAE professionals (AEs, TMs and HRDs) in the following aspects:

- Employment status;
- Functional roles;
- Academic qualifications;
- Training qualifications;
- Working experiences; and
- Reason of AEs for joining TAE sector.

4.1 Employment status

Based on level of training involvement in their jobs, AEs were grouped into full-timers, freelancers and industry practitioners. Full-time AEs were full-time employees of the company whose primary role is training, while freelance AEs were those who hold a part-time position or contracted as a freelance with training as their primary role. The third group or what we call industry practitioners were those who hold an industry position (including in-house trainers) and doing TAE related work as a secondary role. We also categorised some AEs as 'Others' who are not currently employed, i.e., they just retired, currently not working but seeking TAE work, freelancer on medical leave, etc. Similarly, the TMs and HRDs were also categorised into full time, freelance, industry practitioner, and 'others'. See Table 4 for the detailed distribution.

Table 4: Employment status of TAE professionals

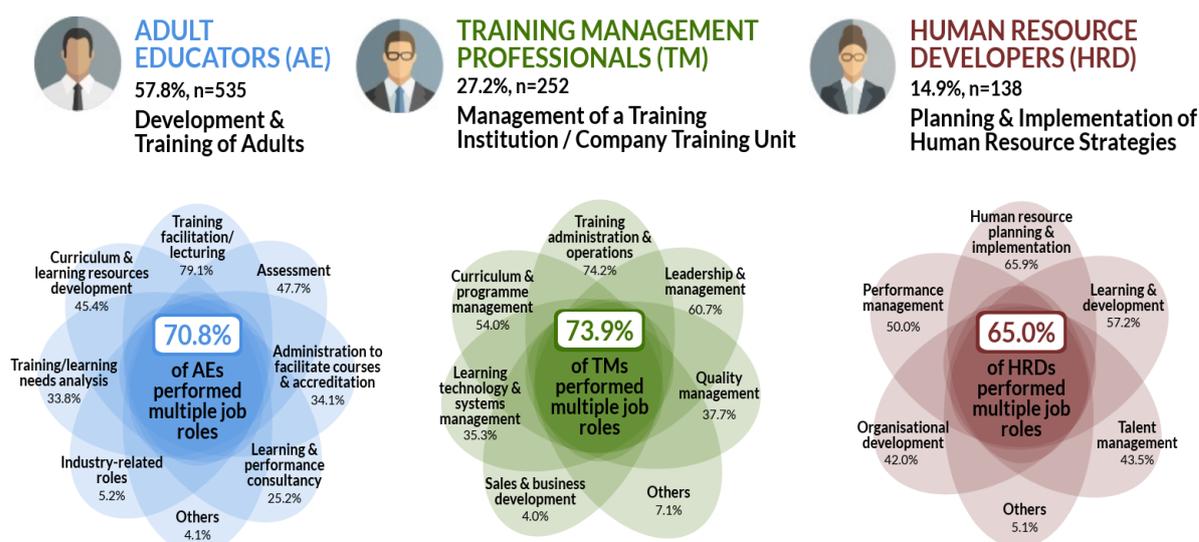
	Full-timers	Freelancers	Industry practitioners	Others	Total
AEs	40.8% (n = 218)	29.5% (n = 158)	21.5% (n = 115)	8.2% (n = 44)	100% (n = 535)
TMs	65.1% (n = 164)	11.1% (n = 28)	20.2% (n = 51)	3.6% (n = 9)	100% (n = 252)
HRDs	60.1% (n = 83)	10.9% (n = 15)	21.7% (n = 30)	7.3% (n = 10)	100% (n = 138)

The comparison across the three groups of TAE professionals (AEs, TMs, HRDs) showed that most of them are full-timers. Around a quarter from each group are industry practitioners. Amongst the AEs, one-third of them are freelancers compared to only around 10% from TMs and HRDs are working as freelancers.

4.2 Functional roles

For the professionals, majority of them perform multiple tasks in their work, see Figure 4.

Figure 4: Functional roles of TAE professionals



Major functional roles that AEs performed include training facilitation, assessment, curriculum design and development, training/learning needs analysis, administration to facilitate courses and accreditation, learning and performance consultancy, etc. About 71% of AE respondents performed multiple roles in their work. For example, among the 79% of AEs who performed training facilitation as one of their functional roles, half of them also performed as assessors, 43% took on curriculum development roles and 27% also conducted training/learning needs analysis, see Table 5. It is worth noting that the historical artefact in the sector of separating out assessment from facilitation appears to play out here, with only half of these facilitators also doing assessment. Curriculum development is undertaken by less than half of the AEs with less than 10% of the AEs taken it as their main functional role, indicating that this appears to be more of a specialist role.

Major functional roles that TMs performed include: training administration and operations, leadership and management, curriculum and programme management, quality management, learning technology and systems management, etc. About 74% of TM respondents performed multiple roles

in their work. For example, among the 74% of TMs that performed training administration and operation as one of their functional roles, 43% of them also performed curriculum and programme management roles, 38% with leadership and management roles and 32% with quality management roles.

Major functional roles that HRDs performed include: human resource planning and implementation, learning and development, performance management, talent management, organisational development, etc. About 65% of HRD respondents performed multiple roles in their work. For example, among the 66% of HRDs that performed human resource planning and implementation as one of their functional roles, 36% of them also performed learning and development roles, 36% of them with organisational development roles and 33% of them with learning and development roles.

Table 5: Top combinations for TAE professionals with major role

Top combinations for AEs with major role in “training facilitation”		<i>n</i>	%
Training facilitation +	Assessment	141	53.4
	Curriculum Development	113	42.8
	Training/learning needs analysis	71	26.9
Top combinations for TMs with major role in “training admin and operations”		<i>n</i>	%
Training admin & operations +	Curriculum & programme management	31	42.5
	Leadership & management	28	38.4
	Quality management	23	31.5
Top combinations for HRDs with major role in “HR planning & implementation”		<i>n</i>	%
HR planning & implementation +	Performance management	16	35.6
	Organisational development	16	35.6
	Learning & development	15	33.3

Our results show that TAE professionals generally perform multiple tasks in their work. The limited specialisation of role in the sector could be a reflection of the small firm size of training providers (see Chapter 3, 45.8% of the TPs were with less than 10 employees), which does not allow for role specialisation and therefore requires each staff to have a broad knowledge of and ability for multiple aspects of the work. In the focus group discussion, training providers expressed strong demand for consultancy and business skills. AEs themselves were also aware that they could receive higher pay for consultancy work. And for TMs and HRDs, their role in business development might be greater. This seemingly common sense finding is an important one to keep track of over future iterations of this survey, as it indicates the extent or limited specialisation of role in the sector.

4.3 Academic qualifications

Professionals in the TAE sector are generally well-qualified, although they span the full gamut of qualifications from as low as secondary and below to as high as post graduate levels. In terms of academic qualifications, over 90% of AEs and TMs and 85% of HRDs have obtained at least diploma or higher education qualifications, see table 6. This remains so even when we take AE employment status into account, see Table 7.

Table 6: Highest qualification of TAE professionals: AE, TM, HRD

	Adult Educators		Training Managers		Human Resources Developers	
<i>Highest Qualification</i>	n	%	n	%	n	%
<i>Secondary & below</i>	26	4.9	14	5.6	11	8.0
<i>ITE & A-level</i>	23	4.3	10	4.0	9	6.5
<i>Diploma and Professional Qualification</i>	110	20.6	51	20.2	33	23.9
<i>Degree & Post-grad Dip/Cert</i>	239	44.7	129	51.2	65	47.1
<i>Masters & PhD</i>	137	25.6	48	19.1	20	14.5
<i>Total</i>	535	100.0	252	100.0	138	100.0

Table 7: Highest qualification of adult educators by employment status

Highest Qualification of AEs	Full time		Freelance		Industry practitioner	
	n	%	n	%	n	%
Secondary & below	11	5.1	4	2.5	5	4.4
ITE & A-level	7	3.2	9	5.7	3	2.6
Diploma and Professional Qualification	48	22.0	32	20.3	23	20.0
Degree & Post-grad Dip/Cert	68	45.0	53	43.0	20	46.1
Masters & PhD	45	24.8	31	28.5	7	27.0
<i>Total (n)</i>	218	100.0	158	100.0	115	100.0

4.4 Training qualifications

The training qualifications reported include Workplace Training Programme (WTP), Advance Certificate in Training and Assessment (ACTA), Diploma in Adult and Continuing Education (DACE) and Specialist Diploma in Advanced Facilitation (SDAF)⁶ and other equivalent qualifications such as graduate diploma in teaching and development, certificate issued by professional bodies or associations, e.g., IATA (International Air Transport Association) Instructor Certificate, and Certified Workplace Learning Specialist. Majority of AEs and TMs (83% and 71% respectively) held at least one of the above mentioned training qualifications. Overall, more than 7 in 10 adult educators have an ACTA qualification, while more than 6 in 10 training managers have the ACTA qualification.

⁶ WTP, ACTA, DACE, SDAF are courses/qualifications offered by IAL to qualify AE or CET professional to perform the roles of WSQ Trainer, Assessor and Curriculum Developer.

Table 8: Training qualifications of adult educators and training managers

Training Qualification	Adult Educators		Training Managers	
	<i>n</i>	%	<i>n</i>	%
WTP	74	13.8	24	9.5
ACTA	379	70.8	154	61.1
DACE	90	16.8	25	9.9
SDAF	10	1.9	7	2.8
Others	33	6.2		
<i>With training qualifications (Overall)</i>	446	83.4	180	71.4
<i>Without training qualification (Overall)</i>	89	16.6	72	28.6

Table 9 presents the training qualifications of AEs by employment status. Around 1 in 5 full-time AEs held a DACE qualification. However, it seemed that freelance AEs were more pedagogically qualified than full-time AEs, in terms of having an ACTA qualification. Overall, a slightly higher proportion of freelance than full-time AEs had at least one training qualification, at 86% and 81% respectively. Surprisingly there are still a small but disturbing number of AEs (17%) with no training qualifications.

Table 9: Training qualifications of adult educators by employment status

	FULL TIME		FREELANCE		INDUSTRY PRACTITIONERS	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
WTP	30	13.8	15	9.5	19	16.5
ACTA	135	61.9	128	81.0	85	73.9
DACE	46	21.1	26	16.5	16	13.9
SDAF	1	0.5	5	3.2	4	3.5
OTHERS	15	6.9	13	8.2	5	4.4
WITH TRAINING QUALIFICATIONS	177	81.2	136	86.1	96	83.5
WITHOUT TRAINING QUALIFICATIONS	41	18.8	22	13.9	19	16.5

4.5 Working experience

More than 50% of AEs and TMs had more than 5 years of TAE working experience. A sizeable percentage of HRDs (44%) had more than 5 years of TAE working experience. On average, AEs reported 7.7 years of TAE-related working experience, TMs had 7.9 years, and HRDs had 6.7 years. Table 10 presents the years of experience working in the TAE sector.

Table 10: TAE-related experience of AEs, TMs, and HRDs

Years of TAE Experience	Adult Educators		Training Managers		Human Resources Manager	
	n	%	n	%	n	%
<2 years	59	11.9	29	13	17	13.8
2-4 years	156	31.6	63	27	52	42.3
5-9 years	130	26.3	67	29	25	20.3
>=10 years	149	30.2	73	31	29	23.6
Total	494	100.0	232	100.0	123	100.0

When we look at the AEs' working experience in TAE sector by their employment status, we see a more sizeable proportion of new freelance and industry practitioners coming into the sector, with less than 2 years' experience, see Table 11. We also see a lower proportion of freelance and industry practitioners with more than 5 years' of TAE experience, as compared to full time AEs. This suggests that the main route into the TAE sector at this point in time, is through freelance work before transiting to full time employment.

Table 11: TAE-related experience of adult educators by employment status

	Full time		Freelance		Industry Practitioner	
	n	%	n	%	n	%
<2 years	15	7.1	21	13.7	16	16.0
2-4 years	64	30.3	44	28.8	40	40.0
5-9 years	65	30.8	39	25.5	18	18.0
>=10 years	67	31.8	49	32.0	26	26.0
Total	211	100.0	153	100.0	100	100.0

More than 80% of all TAE professionals have experience working in a sector other than the TAE; they either worked previously in other sector(s) or are currently still holding industry position(s). See Table 12.

Table 12: Industry experience of TAE professionals

	AEs	TMs	HRDs
With other industry experience, and currently working in sector other than TAE	33.5% (n = 179)	27.8% (n = 70)	31.2% (n = 43)
With other industry experience, but not current	52.9% (n = 283)	54.5% (n = 137)	49.3% (n = 68)
Without industry experience	13.6% (n = 73)	17.9% (n = 45)	19.6% (n = 27)
Total	100% (n = 535)	100% (n = 252)	100% (n = 138)

Table 13 shows the industry experience of AEs by employment status. Overall, only 1 in 3 AEs have worked in other sectors other than TAE and are currently still holding an industry position. Although over 70% of them had worked in another industry before, they have stopped those industry-related work and are currently working for the TAE sector solely. This could be a concern as AEs who lack domain currency may be unable to equip their learners with the relevant skills and practices required by their respective industries. In the focus group discussions, TPs emphasized the importance of

AEs having relevant industry experience and understanding of changes happening in the industries. Without current industry expertise, these AEs may not have access to keep up with the emerging technological innovations used in the industries and thus would not be able to integrate these into their training contents. Notably, around 1 in 5 full time AEs did not have any other industry experience before. For freelancers, more than 1 in 10 did not have working experience in other industries. Of these group of freelancers without experience in other industries, 44% of them have more than 10 years of TAE experience.

Table 13: Industry experience of adult educators by employment status

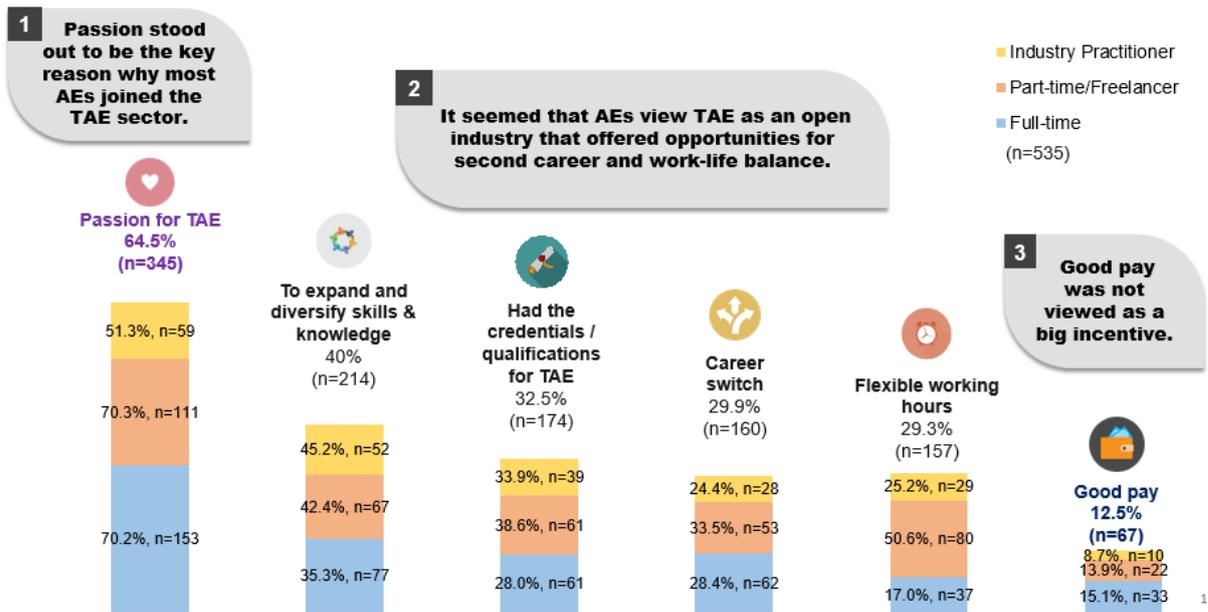
	<i>Full time</i>		<i>Freelance</i>		<i>Industry Practitioners</i>	
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
<i>With other industry experience and currently working in sector other than TAE</i>	5	2.3	49	31.0	109	94.8
<i>With other industry experience but not current</i>	167	76.6	90	57.0	6	5.2
<i>Without other industry experience</i>	46	21.1	19	12.0	0	0.0
<i>Total</i>	<i>218</i>	<i>100.0</i>	<i>158</i>	<i>100.0</i>	<i>115</i>	

Of the 510 AEs who reported their domain expertise, 8% ($n = 41$) of them are weak in their domain expertise. More worryingly, among these 41 AEs who already reported being weak in their domain expertise, 63.4% of them ($n = 26$) also reported that they do not have industrial experience or are currently not working in industries other than the TAE sector. This heightened the risk they faced of not being current in their domain expertise in the long run.

4.6 Reasons for joining the TAE sector reported by AEs

Our survey asked about the reasons why AEs decided to join the TAE sector. Of the 535 AE respondents, passion stood out to be the key reason why most AEs joined the TAE sector (64.5%, $n = 345$). It seemed that AEs view TAE as an open industry that offered opportunities for second career and work-life balance – given 13 choices and a space to indicate other reasons which they can multi-select, 40% ($n = 214$) of them indicated that they joined TAE sector because they want to expand and diversify skills and knowledge, 32.5% ($n = 174$) of them indicated that it is because they had the credentials/qualifications for TAE, 29.9% ($n = 160$) of them indicated that it is because they wanted a career switch and 29.3% ($n = 157$) of them wanted flexible working hours. Good pay was not viewed as a big incentive as only 12.5% ($n = 67$) of them opted good pay as a reason.

Figure 5: Reasons for joining TAE sector by employment status



In the focus group discussion, reasons for their TAE career choice, that is passion for TAE, having the credentials/qualification for TAE, career switch, and flexible working hours were further explored. For anonymity, the participants' names in this report are all pseudo names.

I started coming into training from HR. I don't like HR so I went to public speaking, toastmasters. Then I went to training. So I thought interacting with people is so amazing. ... It's a passion for you as a trainer, alright to deliver in a manner that the person who is acquiring the skills is able to demonstrate [Moon, 57 years old, full-time, a curriculum designer and facilitator for in-house immersion programme]

It was in 2016 and by then I was 56 years old. So I tell myself what's next. But because I would say my whole career is very interesting, I'm not only involved in Singapore, ASEAN, Europe and it's always in projects. So I thought this is a very...the experience that I have, I thought it would be good to be sharing. That's why a lot of times especially logistics, it requires a lot of detailed planning and understanding and especially the difference between countries' regulations and all that. So I have been there and done that. So I thought it was good sharing and coincidence, I just say ok training will be one of the best things. Ok so I came for ACTA and they match me with... [Jenny, 58 years old, freelance, a Professional Conversion Programme trainer and assessor]

I am pretty new in TAE sector, just merely three years. I have two young kids, one in kindergarten and another in Primary 3. My husband has to fly quite often and I want to spend more time with my kids. So I quit my full-time work and I got ACTA and CWLS and now I am a freelance in consultancy. I got my first assignment from a local SME, and then one after another... I like the flexibility of time. I can choose not to work or work less during (my son's) exam period. [Yan Ping, 36 years old, freelance, learning and performance consultant]

We could see that for Moon, her interest in interacting with people turned into passion for training and helping learners learn and perform. Jenny's story of switching to TAE from another industry is not uncommon among our participants. They found TAE sector to be an open sector that could make good use of their past experiences and it is fairly easy for them to make the switch. For working

mothers like Yang Ping, freelance TAE work gives them the flexibility to balance between work and family responsibilities. Entering into the TAE sector may not be too difficult. However, to survive and thrive in the changing work can be challenging. We will discuss the challenges the TAE professionals face in Chapter 8.

4.7 Summary

The TAE professionals, AE, TM, and HRD are similar in many respects. Majority (~70%) of our TAE professionals performed multiple tasks in their work, and most of them are in full-time position. Our TAE professionals are highly qualified in terms of academic qualifications and training qualifications, about 6 or 7 in 10 professionals have degree or above qualification. They are also quite experienced with at least half of them having more than five years of TAE-related working experience. However, overall only 1 in 3 AEs have worked in other sector other than TAE and are currently still holding an industry position. For the other 2/3 of AEs, there are concerns over their industry expertise and how to keep their industry knowledge current is critical for quality of AEs.

As for the reasons why AEs joined the TAE sector, passion stood up to be the key reason. Many AEs come to the TAE sector with enthusiasm to share their knowledge and diverse industry experiences, which helps to make learning more relevant to the learners. Flexible time is another major reason why freelance AEs join the sector.

5. Job quality of adult educators

In today's economy, policymakers face the issue of not just simply ensuring jobs for the available workforce, but also that these jobs are positive experiences for workers (Leschke & Watt, 2013; Findlay, Kalleberg, & Warhurst, 2013). Given this context, job quality has emerged as a construct of interest in the current literature, as an indicator for various outcomes, ranging from worker well-being (Horowitz, 2016) to a country's developmental progress (Bocuzzo & Gianecchini, 2014). Based on existing research, job quality can be viewed as a series of job-related factors which promote beneficial outcomes for workers and influence how they perceive their job (Holman, 2013; Bocuzzo & Gianecchini, 2014). In essence, a series of variables have been consistently utilised by various studies as measures for job quality. These factors include wages or pay, job security, job autonomy and work intensity (Leschke & Watt, 2013; Findlay, Kalleberg, & Warhurst, 2013; Horowitz, 2016). Individually, each factor could be said to represent an aspect of a job's overall quality.

5.1 Job quality indicators

The job quality used in this chapter comprised six factors or dimensions: work intensity, work autonomy, work complexity, job security, career prospects and pay (see table 14 for the descriptions of each dimension). These are the dimensions that directly affect well-being, health and productivity, and are either characteristics of a job or outcomes of a job (ref). Respondents self-reported the extent of their experience on a Likert scale of 1 to 6, with '1' being the lowest favourable score (Not at all/Strongly disagree) and '6' being the most favourable score (Definitely/Always/Strongly agree) for each dimension except career prospects, which were reported on a Likert scale of 1 to 4, corresponding to a timeline of 'Within the next 12 months', '13-36 months', '4-5 years' or 'No change', respectively.

Table 14: Overview of the job quality indicators

<p>Work intensity</p>	<p>Work autonomy</p>
<p>Working at high speed Working with tight deadlines Working extra time</p>	<p>Deciding how hard to work Deciding what tasks to do Deciding how to do the task Deciding the quality standards to which to work</p>
<p>Work complexity</p>	<p>Job security</p>
<p>Carrying out short and repetitive tasks Performing of a wide range of tasks Confronted with new and complex problems</p>	<p>Likelihood of losing the TAE job</p>
<p>Career prospects</p>	<p>Pay</p>
<p>Expectation of taking on higher level of responsibilities Expectation of increase in salary</p>	<p>Gross monthly income (refers to the total gross monthly wages, salaries or profits before deduction of income tax. This includes both TAE-related and non-TAE-related income sources.</p>

Overall, the majority of adult educators reported favourable scores in almost the six dimensions (except on job intensity) (see table 15). More than 8 in 10 AEs (82%) were confident that they will not lose their TAE-related job/work in the next 12 months. 8 in 10 AEs reported a high level of work

autonomy on the four aspects of job relating to autonomy. About 73% AEs reported at least a considerable complexity in their work, and 78% of AEs reported considerable to high work intensity. 67% of AEs reported better career prospects in the next 12 to 36 months.

Table 15: Job quality indicators of adult educators

	Overall	Full-time	Freelance	Industry Practitioner
Sample (n)	535	218	158	115
Pay (Gross Monthly Income, Median)	4150	4500	3500	4900
Autonomy (Overall)	80.7	77.9	83.7	80.9
<i>deciding how hard to work</i>	81.9	79.4	85.4	81.7
<i>deciding what tasks to do</i>	74.0	69.7	80.4	74.8
<i>deciding how to do the task</i>	81.5	78.4	83.5	86.1
<i>deciding the quality standards to which to work</i>	85.2	84.0	85.4	87.8
Complexity (Overall)	55.5	55.2	54.0	61.4
<i>carrying out short, repetitive tasks</i>	24.5	18.8	32.3	24.3
<i>performing a wide range of tasks</i>	63.9	66.5	55.1	76.5
<i>confronted with new or complex problems</i>	78.1	80.3	74.7	83.5
Intensity (Overall)	77.8	81.5	70.0	84.6
<i>working at high speed</i>	83.6	87.6	74.7	89.6
<i>working to tight deadlines</i>	81.9	86.7	72.8	89.6
<i>working extra time</i>	67.9	70.2	62.7	74.8
Career prospect (Overall)	67.7	72.5	63.9	68.3
<i>Increase in pay</i>	68.4	72.9	64.6	68.7
<i>Increase in managerial responsibility</i>	66.9	72.0	63.3	67.8
Job security	82.2	87.6	78.5	80.0

Comparing AEs based on their employment status, more full-time AEs reported high (good) score in pay, career prospect and job security than freelancer AEs. But also more full-time AEs reported doing more intense work and having less autonomy than freelancers. Thus, full-time AEs could be characterised as being better paid, with better career prospects, job security, but with less autonomy and high intense work, than the freelancers.

Comparing the AEs with overall data of professionals⁷, we see that professionals were generally paid higher than AEs. And more professionals than adult educators reported high (good) scores in job autonomy, career prospects, job security and job complexity, and job intensity (i.e., more AEs reported high intensity work than professionals), see table 16.

⁷ Data on professionals (having at least a diploma academic qualification) came from the IAL's Skills and Learning Study that used randomly selected national sample.

Table 16: Job quality of adult educators and professionals

	<i>Professional (Overall)</i>	<i>AE (Overall)</i>	<i>Professional (Full-time)</i>	<i>AE (Full-time)</i>	<i>Professional (Freelance)</i>	<i>AE (Freelance)</i>
Sample (n)	906	535	838	218	60	158
Pay (Gross Monthly Income, Median)	5833	4150	5963	4500	3417	3500
Autonomy	84.2	80.7	84.0	77.9	89.6	83.7
Complexity	60.9	55.5	62.3	55.2	51.1	54.0
Intensity	55.2	77.8	55.0	81.5	50.8	70.0
Career prospects	78.3	67.7	80.0	72.5	58.3	63.9
Job security	87.8	82.2	88.4	87.6	75.0	78.5

Freelance AEs earned slightly more than the national average of the freelancers, with better work prospects and higher job security. However, freelance AEs have less autonomy in making decisions, compared to the national average of freelancers, although their work is much more intense and complex in nature.

5.2 Summary

The majority of adult educators reported favourable scores in almost all six dimensions of job quality namely autonomy, complexity, security, career prospect, and pay (i.e., except for job intensity—majority of AEs reported highly intense job). However, compared to national data of professionals, Job quality of full-time AEs seems to be worse than other full-time professionals nationally: lower median income (by -\$1,463); less complex job (by -7%) with lower autonomy (by -6%), more intense (by 27%), lower career prospect (by -7.5%), although they have similar Job security.

Freelancers seem to have more autonomy, fewer career prospects and less job security than full-time AEs. These results are expected, but they indicate that to keep experienced freelancers in the sector attention might need to be paid to how to grow their potential and widen their options for work e.g. moving into consultancy work.

Our data shows that the different aspects of job quality are correlated, for example, work autonomy has high correlation with work complexity (22%) and job security (14%). Intervention-wise, if we focus our attention on improving work autonomy, this could improve work complexity and job security, which would probably increase income and career prospects as well, as work complexity is highly correlated with income by as much as 23%, and job security's correlation with income and career prospects is 13% and 16%, respectively. Work autonomy could be better facilitated at the industry- and organisational-level rather than at government level, since only the practitioners and employers themselves know best how work should be organised or carried out depending on the occupation and industry. Work autonomy should be encouraged as it was shown in literature to have strong association with higher productivity, morale and work satisfaction. Our data shows that work autonomy and work satisfaction had a high correlation of 29%.

If the focus of attention to improving job quality would be through job security, this could probably improve pay, career prospects and work satisfaction, with job security's correlation with the said dimensions of 13%, 16%, and 22%, respectively. Job security is more straightforward than work autonomy as a policy lever as the government could offer or facilitate measures that can affect job security either through some forms of retraining and skills upgrading subsidies, as well as employment protection or unemployment benefits as offered in other countries, examples of which include severance pay schemes, advance notice for dismissals, increase protection for vulnerable groups such as regulations concerning pregnant employees, maternity leave and seniority rules for older workers.

Future studies can look into the characteristics that explain the high intensity, low autonomy and poor prospect opportunities. This will then allow targeted solutions that can improve the current state of AEs to be on par or better than their occupational equivalents. Further comparison between the better job quality AEs and poor job quality AEs is needed to pick out key factors that differentiate them.

Future studies can also look into the structural and characteristics of training organisations to get a better understanding of how they could have an influence on the job quality of AEs and the potential areas of intervention to help improve the quality of work in the TAE sector.

6. Blended learning, use of learning technologies and business innovation

Blended learning, where classroom-based learning is integrated with tech-enabled learning and/or workplace learning, has been adopted by businesses and educators because of its flexibility, cost-effectiveness, and relevancy. For business, blended learning can extend the reach of training in terms of access and flexibility with variety of formats and elements to ensure that any learning styles (visual, auditory, kinaesthetic) that work for the employees could be adopted to keep them stimulated in learning, as well as optimising developmental cost and time (Korr, Derwin, Greene & Sokoloff, 2012; Singh, 2013;). For learners, what makes blended learning attractive is its potential and promise in providing an authentic learning environment, as the content could be more learner-centred, open for learners' contribution and co-creation (Regan & Delaney, 2011; Bi, Bound et al forthcoming). Well designed and implemented, it could improve learner engagement and participation which is a crucial measure for the effectiveness of learning (Hewett, 2016; Badawi, 2009).

The TAE sector in Singapore has started to take blended learning approach seriously with the launch of Innovative Learning 2020 (iN.LEARN 2020, see SkillsFuture, 2019) in October 2015. The iN.LEARN 2020 initiative aims to enable a wide adoption of blended learning with a strong technology component to meet the dynamic learning needs of business enterprises and individuals. The iN.LEARN 2020 specifically aims to address the barriers to adopting blended learning through diverse initiatives such as capability development programmes, infrastructure support and resource provisions.

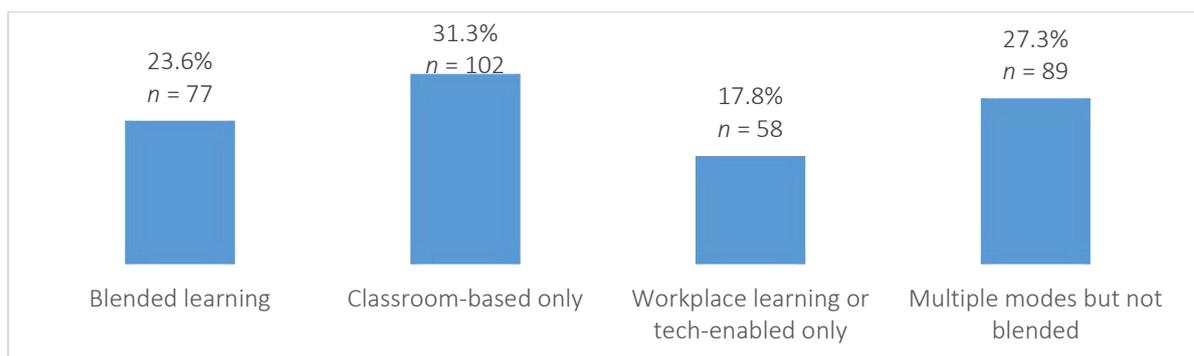
We define blended learning as any combination of three modes of delivery, namely, classroom, workplace, and / or tech-enabled learning present in a programme / course. We will present the findings related to use of blended learning, learning technologies and business innovation of TPs before we present findings on AEs. Specifically, the data provided us a picture on the following areas:

- Current status of blended learning;
- TPs' investment in blended learning;
- Current status of adoption of learning technologies; and
- Current status of business innovation.

6.1 TPs' use of blended learning

Of the 326 TPs surveyed, about 1 in 4 (23.6%, $n=77$) have adopted blended learning in their training programme and services. Still, training delivery through classroom-based only was the most frequently used, as reported by almost one-third (31.3%, $n = 102$) of TPs. We saw about 27.3% ($n = 89$) of TPs adopting different or multiple modes of delivery but are not blended as a single mode is used per programme. With their awareness and use of the different modes of delivery, this group of TPs showed good potential of adopting blended learning formats, though they may require support to integrate the different modes. See Figure 6.

Figure 6: TPs' modes of training delivery



**Note: TPs that used multiple modes in their program delivery are not considered blended because only one mode is used per programme delivery. Hence, the category “multiple modes but not blended” with 27.3% of TP reporting.

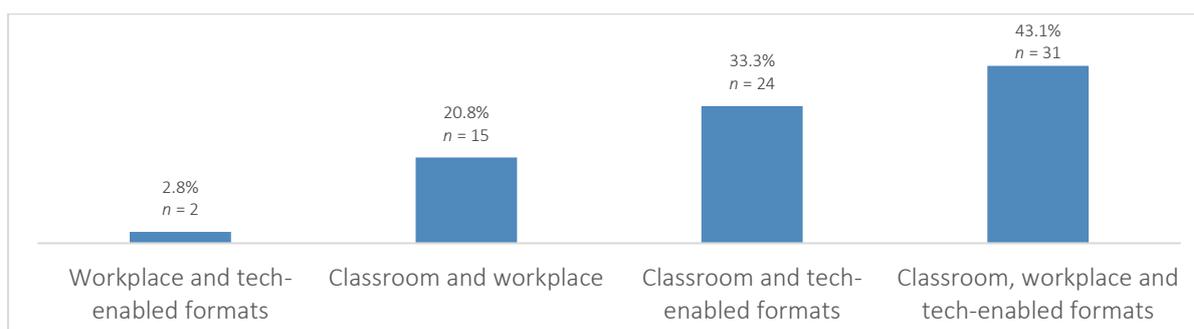
The comparison between WSQ and non-WSQ TPs showed that a higher proportion of WSQ TPs (33%, n=57) than non-WSQ TPs (13.7%, n=18) have used blended learning, see table 17. This is probably because from 1 January 2017, all new WSQ qualification programmes must incorporate blended learning, and by 1 January 2018, all WSQ qualification programmes must incorporate blended learning (SkillsFuture, 2018). With these requirements, it could be expected that the proportion of WSQ TPs that adopt blended learning would likely increase.

Table 17: Mode of delivery by TP category

		WSQ TP	Non-WSQ TP
<i>Blended</i>	<i>n</i>	57	18
	<i>%</i>	33.0	13.7
<i>Classroom only</i>	<i>n</i>	48	45
	<i>%</i>	27.8	34.4
<i>Workplace learning or tech-enabled only</i>	<i>n</i>	18	37
	<i>%</i>	10.4	28.2
<i>Multiple mode but not blended</i>	<i>n</i>	50	31
	<i>%</i>	28.9	23.7

Of the 77 TPs that reported using blended formats in their programmes, 72 of them described how their programmes were blended. Of these 72, 43.1% (n = 31) of them have used the three modes of classroom, workplace, and tech-enabled learning formats, and 33.3% (n = 24) of them used classroom and tech-enabled format. The combination of workplace and tech-enabled format was not used frequently with only 2.8% (n = 2) TPs reporting it. See Figure 7.

Figure 7: Ways to blend by TPs



6.2 TPs' investment in different delivery modes

When it comes to investment in blended learning, 48% (n=120) of TPs reported having invested in blended learning (invested in at least two learning modes) in the last 12 months. Of these 120 TPs, most of them invested in classroom and workplace learning (34%, n = 41), only a few of them (6%, n = 7) invested in workplace and technology-enabled learning. Quite a number of them (29%, n = 35) invested in all three modes. See Table 18.

Table 18: Number of TPs that invested in blended modes

classroom and workplace learning	classroom and technology-enabled learning	workplace and technology-enabled learning	classroom, workplace and technology-enabled learning
34% n = 41	31% n = 37	6% n = 7	29% n = 35

Our findings indicate that classroom learning is still the basic training mode. Combinations without classroom learning, such as workplace and technology-enabled learning are less prominent. The investment decisions of training providers on the delivery modes are based on learners' need, funding and market demand. Some training providers in the focus group discussion explained that many learners still prefer classroom training as they value the social interaction of face-to-face facilitation and also the protected time to get out of routine work. But many also see the trend for more blended learning with workplace learning and tech-enabled learning, as the learners become more tech-savvy and learning becomes more digital, global, mobile, bite-sized and life-long.

6.3 TPs' use of learning technology

With the iN.LEARN 2020 promoting adoption of blended learning with a strong technology component, the study also asked the TPs if they have adopted any form of learning technologies in the last 12 months. Less than half or 47% (n = 153) of all TPs reported they did. A higher proportion of WSQ TPs (55.5%, n = 96) have used learning technology than Non-WSQ TPs (38.2%, n = 50).

The top learning tools used by the 153 TPs were audio-visual training aids (36.9%, n = 117), e.g. Powerpoint, Smart boards etc., recorded videos of training activities or content (31.6%, n = 103), e.g. lectures, seminars, discussions etc., and collaboration platforms (25.8%, n = 84), e.g. Google docs. See Table 19. The use of learning technology seemed to be primarily asynchronous, i.e. one-way knowledge transfer, such as creating audio-visual training aids with Smartboard and recorded videos; but less frequently to connect learners to learners or context. For example, less than 15% of training providers and adult educators reported using simulations such as augmented reality or virtual reality. Given that most tools used were mainly for one-way knowledge transmission and the frequency of use was not high (~3 "Occasionally" out of a scale of 6 "Always"), the results could imply that current use of learning technologies in training might be more content-driven; but less dialogical or contextual, which may not lead to better learner experience or deep learning.

Table 19: Technologies used by training providers

	Percentage of TPs that used ...
Audio-visual training aids (e.g. Smart boards)	35.9%, n = 117
Recorded video of training activities, contents (e.g. lectures, seminars, discussions)	31.6%, n = 103
Collaboration platforms (e.g. Google docs)	25.8%, n = 84

Learning management systems (e.g. Moodle, Canvas, LearningSpace, AsknLearn)	25.5%, <i>n</i> = 83
Web-based forums, online chats, online community of practice, polling	23.3%, <i>n</i> = 76
Web-based seminars/presentations (e.g. Blackboard Collaborate, Adobe Connect, virtual classrooms)	22.7%, <i>n</i> = 74
E-assessment (e.g. online quizzes)	21.5%, <i>n</i> = 70
Web-based chats, conferencing	21.2%, <i>n</i> = 69
Mobile applications for adult learning (e.g. Gnowbe, AcuiZen)	17.8%, <i>n</i> = 58
Gamifications	16.6%, <i>n</i> = 54
Simulations (e.g. augmented reality, virtual reality)	14.1%, <i>n</i> = 46
E-portfolios	14.1%, <i>n</i> = 46
Others	2.6%, <i>n</i> = 4

Table 20 shows the use of learning technologies / tools by WSQ and Non-WSQ TPs. More WSQ TPs adopted learning technologies in the last 12 months than non-WSQ TPs. More than 85% of WSQ TPs have used web-based forums, collaborative tools while half of Non-WSQ TPs reported doing so. Similarly, around 1 in 5 WSQ TPs reporting using mobile applications, gamifications and simulations (e.g., AR, VR) in their programmes and services, but only 1 in 10 Non-WSQ TPs did so.

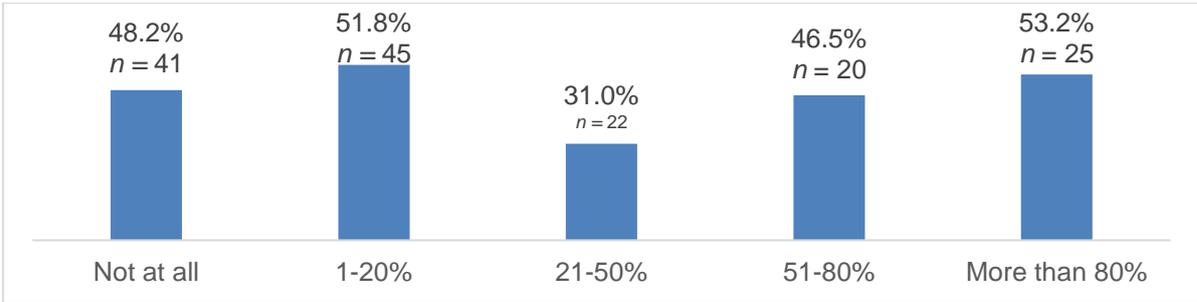
Table 20: Learning technologies used by training providers by TP category

		WSQ TP	Non-WSQ TP
<i>Audio-visual training aids (e.g. Smart boards)</i>	<i>n</i>	78	35
	%	45.09	26.72
<i>Recorded videos of training activities/contents (e.g. lectures, seminars, discussions)</i>	<i>n</i>	68	30
	%	39.31	22.9
<i>Learning Management Systems (e.g. Moodle, Canvas, LearningSpace, AsknLearn)</i>	<i>n</i>	58	21
	%	33.53	16.03
<i>Web-based seminars/presentations (e.g. Blackboard Collaborate, Adobe Connect, virtual classrooms)</i>	<i>n</i>	51	19
	%	29.48	14.5
<i>Web-based forums, online chats, online community of practice, polling</i>	<i>n</i>	51	21
	%	29.48	16.03
<i>Web-based chats, conferencing</i>	<i>n</i>	45	20
	%	26.01	15.27
<i>Collaboration platforms (e.g. Google docs)</i>	<i>n</i>	56	24
	%	32.37	18.32
<i>Mobile applications for adult training (e.g. Gnowbe, AcuiZen)</i>	<i>n</i>	39	16
	%	22.54	12.21
<i>Gamifications</i>	<i>n</i>	38	14
	%	21.97	10.69
<i>Simulations (such as augmented reality, virtual reality)</i>	<i>n</i>	33	12
	%	19.08	9.16
<i>E-portfolios</i>	<i>n</i>	34	10
	%	19.65	7.63
<i>E-assessment (e.g. online quizzes)</i>	<i>n</i>	52	15
	%	30.06	11.45

Others	n	2	2
	%	2.53	2.41

No clear relationship was seen between TPs' dependence on government funding and their use of learning technology. Of the 85 TPs that did not rely on government funds, almost half of them (48.2%, n=41) adopted learning technologies in the past 12 months, which was not much different from TPs who relied on government funding for more than half of their business. See Figure 8.

Figure 8: TPs that use technologies and their dependence on government funding



Although a considerable proportion of TPs (47%) reported using learning technologies, the frequency of use is not high (~3 out of a scale of 6). About 53% (n=173) of TPs did not use learning technologies at all in the last 12 months. Among the top reasons for not using learning technology include believing that their current mode of training delivery is enough to achieve the learning outcomes (47.4%, n = 73), learning technologies as too costly and will not reap the returns on investment in the next 2-3 years (33.8%, n = 52), and their lack of expertise to kick-start it (31.2%, n = 48), see Table 21. These were in line with key observations from the focus group discussions (FGDs). Other reasons revealed in the FGDs include learners' readiness, e.g., some learners are not proficient in the ICT skills so were not ready to adopt learning technologies. Some TPs also mentioned it was difficult to decide which learning technologies to use from the diverse and fast changing tools and technologies in the market.

Table 21: Reasons for not adopting learning technologies

Reasons for not adopting learning technologies	
Current mode of training delivery can meet the learning outcomes effectively	47.4%, n = 73
Too costly and will not reap the ROI in the next 2 to 3 years	33.8%, n = 52
Lack of expertise to kick start	31.2%, n = 48
Lack of financial resources to kick start	29.9%, n = 46
No need as my clients prefer traditional mode of delivery such as classroom training	26.6%, n = 41
No resources to explore what learning technologies are available in the market	26.6%, n = 41
Not ready as we do not have a business plan ready for adopting learning innovation	20.1%, n = 31
Others	1.3%, n = 2

6.4 Business innovation of TPs

We took reference from OECD's innovation indicators (OECD, 2017) and measured the status of business innovation by TPs in the four areas: product innovation (develop or introduce any new or significantly improved products or services), process innovation (develop or introduce any new or significantly improved operational processes), organisational innovation (develop or introduce any

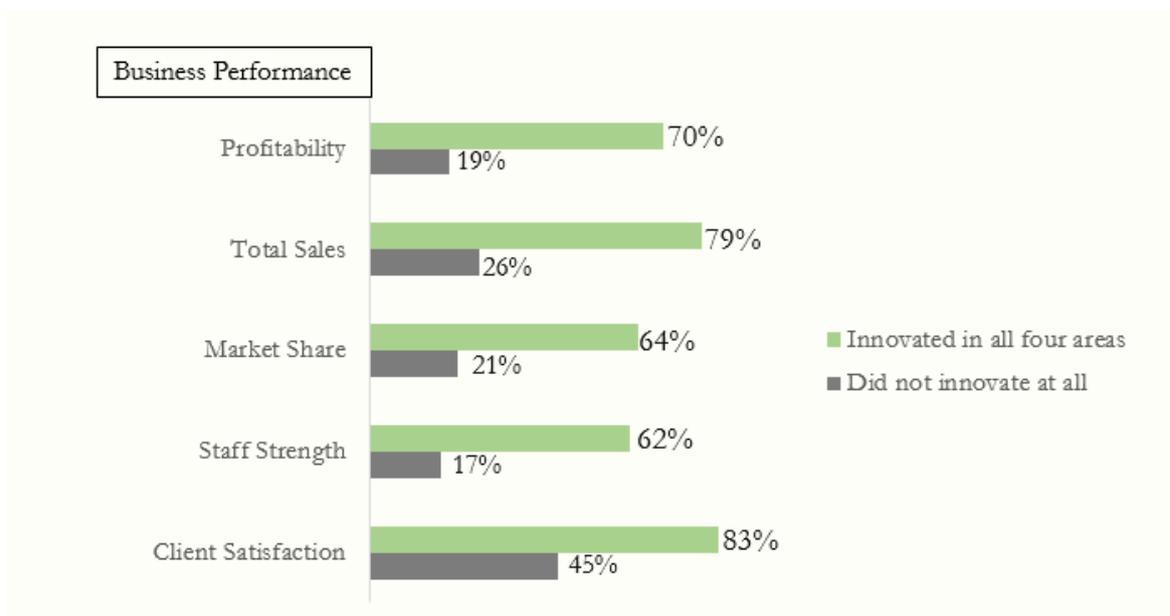
new or significantly improved organisational / managerial processes) and marketing innovation (develop or introduce any new or significantly improved marketing methods). Table 22 presents the findings on training providers.

		Overall	WSQ TP	Non-WSQ TP
<i>Product innovation</i>	<i>n</i>	163	100	60
	%	50	57.8	45.8
<i>Process innovation</i>	<i>n</i>	146	92	49
	%	44.8	53.2	37.4
<i>Organisational innovation</i>	<i>n</i>	112	71	36
	%	34.4	41.0	27.5
<i>Marketing innovation</i>	<i>n</i>	161	82	66
	%	49.4	47.4	50.4
<i>None</i>	<i>n</i>	58	19	33
	%	17.8	11.0	25.2

Overall, more than 80% (17.8% did not innovate in any of the above areas) of the TPs have innovated in at least one of the four areas. Half of them introduced new or significantly improved programmes and services in the last 12 months. A higher proportion of WSQ TPs than Non-WSQ TPs participated in all the four areas of innovation activities. 1 in 4 Non-WSQ TPs did not innovate in any of the four areas at all in the last 12 months. Lack of skilled personnel and cost constraints were cited as top challenges for TPs to adopt innovation.

Compared to TPs that did not innovate at all, a larger proportion of training providers that innovated in all four areas reported an increase in business performance, see figure 9.

Figure 9: Business innovation and business performance



6.5 AEs' adoption of blended learning

This section discusses the delivery modes and adoption of blended learning by AEs.

Among the 535 AE respondents, about 40% or 213 of them reported using blended format in their training-related work. See table 22. Out of these 213 AEs, more than half (54.9%, $n = 117$) have used all three modes in a single programme/course: classroom-based, workplace, and tech-enabled learning formats. The use of blended format with workplace and tech-enabled learning was least used with only one AE reporting, see table 23.

Table 22. Number of Adult Educators who reported their mode of delivery at the programme level

Modes of delivery	n	Percent
Blended format	213	39.8%
Classroom-based only	160	29.9%
Workplace-learning format only	47	8.8%
Tech-enabled format only	18	3.4%

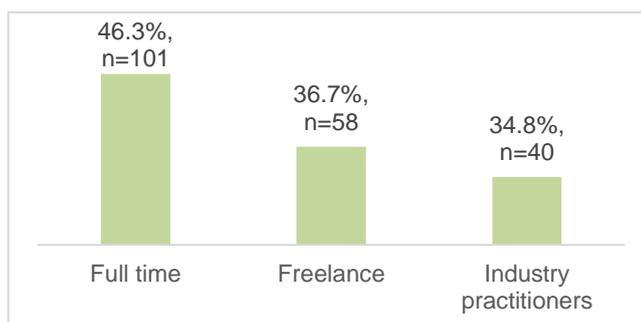
Table 23. Ways of blending by adult educators

Ways to blend	n	Percent
All 3 formats (Classroom, workplace & tech-enabled)	117	54.9%
Classroom & tech-enabled formats	53	24.9%
Classroom & workplace formats	42	19.7%
Workplace & tech-enabled format	1	0.5%

The results were similar to what TPs reported, i.e., blended mode without classroom-based learning is least favoured or used by AEs.

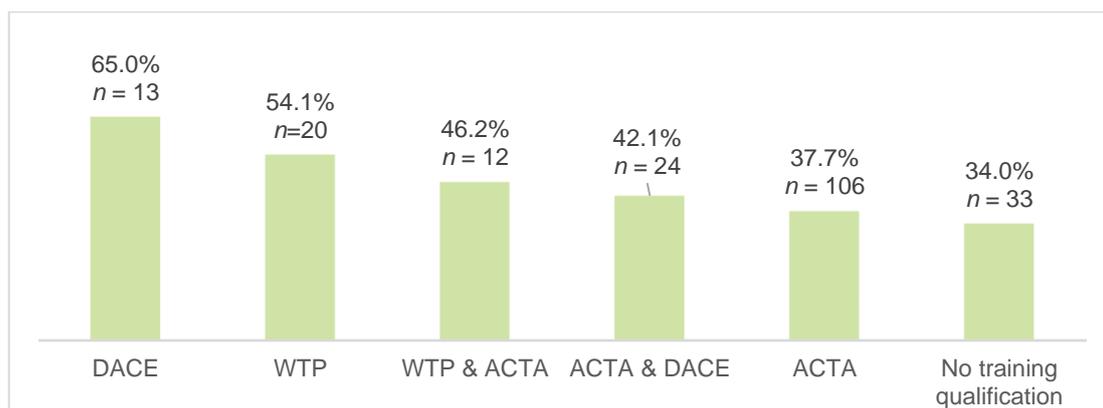
In terms of employment status, 46%, 37% and 35% of full time, freelance, and industry practitioners, respectively, used blended learning in their work at the programme level, see figure 10.

Figure 10: AEs' use of blended format, by employment status



AEs without any training qualifications reported less use of blended learning as compared with those having some training or WSQ qualifications, see figure 11.

Figure 11: AEs use of blended learning, by training qualification



6.6 The use of learning technology by adult educators

Majority of AEs (76.8% / $n = 411$), who reported using learning technology in their training related work, used mainly audio-visual training aids, recorded videos of training activities or content, and e-assessment, which were similar to those reported by TPs except for the e-assessment. See Table 24.

Table 24: Technologies used by adult educators

Learning technologies / tools	
Audio-visual training aids (e.g. Smart boards)	66.2%, $n = 354$
Recorded video of training activities, contents (e.g. lectures, seminars, discussions)	57.8%, $n = 309$
E-assessment (e.g. online quizzes)	42.1%, $n = 225$
Learning management systems (e.g. Moodle, Canvas, LearningSpace, AsknLearn)	35.3%, $n = 189$
Collaboration platforms (e.g. Google docs)	33.8%, $n = 181$
Web-based forums, online chats, online community of practice, polling	32.5%, $n = 174$
Web-based seminars/presentations (e.g. Blackboard Collaborate, Adobe Connect, virtual classrooms)	32%, $n = 171$
Web-based chats, conferencing	26.9%, $n = 144$
E-portfolios	22.1%, $n = 118$
Simulations (e.g. augmented reality, virtual reality)	21.1%, $n = 113$
Gamifications	20.9%, $n = 112$
Mobile applications for adult learning (e.g. Gnowbe, AcuiZen)	20.7%, $n = 111$
Others	2%, $n = 2$

Table 25 showed the use of learning technologies / tools by full time AEs, freelancers and industry practitioners. A higher proportion of full-time AEs than freelancers reported having used learning technologies in the last 12 months. Close to half of the full-time AEs have used learning management

system in their work while only 30% of freelancers did so. Similarly, around 2 in 5 full time AEs used collaborative tools, but only less than 1 in 3 freelancers did so.

Table 25: Learning technologies used by adult educators by employment status

		<i>Fulltime</i>	<i>Freelance</i>	<i>Industry practitioner</i>
<i>Audio-visual training aids (e.g. Smart boards)</i>	<i>n</i>	161	103	66
	%	73.9	65.2	57.4
<i>Recorded videos of training activities/contents (e.g. lectures, seminars, discussions)</i>	<i>n</i>	138	94	55
	%	63.3	59.5	47.8
<i>Learning Management Systems (e.g. Moodle, Canvas, LearningSpace, AsknLearn)</i>	<i>n</i>	98	47	33
	%	45.0	29.8	28.7
<i>Web-based seminars/presentations (e.g. Blackboard Collaborate, Adobe Connect, virtual classrooms)</i>	<i>n</i>	84	43	31
	%	38.5	27.2	27.0
<i>Web-based forums, online chats, online community of practice, polling</i>	<i>n</i>	83	51	28
	%	38.1	32.3	24.4
<i>Web-based chats, conferencing</i>	<i>n</i>	66	40	24
	%	30.3	25.3	20.9
<i>Collaboration platforms (e.g. Google docs)</i>	<i>n</i>	87	43	34
	%	39.9	27.2	29.6
<i>Mobile applications for adult training (e.g. Gnowbe, AcuiZen)</i>	<i>n</i>	50	32	17
	%	22.9	20.3	14.8
<i>Gamifications</i>	<i>n</i>	54	27	21
	%	24.8	17.1	18.3
<i>Simulations (such as augmented reality, virtual reality)</i>	<i>n</i>	52	31	19
	%	23.9	19.6	16.5
<i>E-portfolios</i>	<i>n</i>	50	33	22
	%	22.9	20.9	19.1
<i>E-assessment (e.g. online quizzes)</i>	<i>n</i>	111	58	38
	%	50.9	36.7	33.0
<i>Others</i>	<i>n</i>	1	1	0
	%	2.0	2.1	0.0

The results show similar patterns with those of the TPs. AEs used learning technology more frequently for knowledge transfer or content dumping (e.g., Smart boards, recorded videos) than in using it to connect learners to learners or learning context, implying that training might be less experiential (learning by doing) and social (interacting with peers).

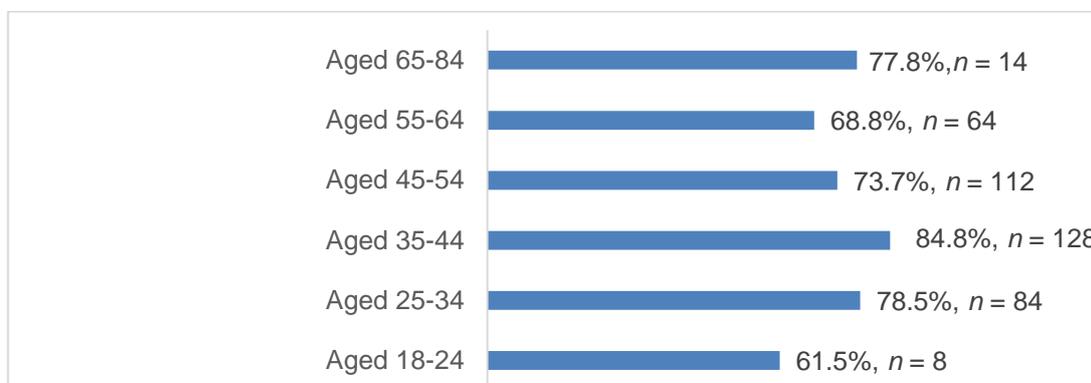
AEs who reported higher proficiency in tech-enabled learning & digital literacy tended to use learning technology more often than those with low digital proficiency in their work, suggesting that targeting to improve the digital literacy skills could increase the adoption of learning technology in adult education and training. See Figure 12.

Figure 12: AEs who used learning technology by digital literacy proficiency



In terms of age, more AEs aged 25 - 44 reported the use of learning technology than AEs in the other age groups. See Figure 13.

Figure 13: AEs who used learning technology by age



6.7 Summary

Promoting blended learning in training and adult education is a long journey. Our findings show that a good proportion of TPs and AEs are adopting blended learning to respond to the changes and new demands in the TAE market. Understanding the current status of blended learning is a first step towards learning innovation; we also need to know how blended learning is conducted and whether they are linked to better learner experience and learning outcomes.

A quarter of TPs adopted blended learning, however, over 30% are still doing classroom-based training only. Adult educators showed similar results with those reported by TPs in their adoption of blended learning. Among the 535 AEs, 40% or 213 of them reported using blended format in their training-related work while 30% are still doing classroom-based training only. The investments in technology-enabled programmes and services are not yet highly picked up among TPs with more than half of them not investing, and so it is not surprising that learning technologies were also found to be infrequently used overall, and when used, it was basically for knowledge transfer like the use of smart boards and recorded videos. A new demand-driven approach to funding at the sectoral level could be considered to address the concerns on low level of adoption and extent of use of learning technology.

Whether the mere adoption of blended learning should be taken as successful or effective would depend on whether it increases learning outcomes and enhance learner experience, not just its mere use per se. Providing the TPs and AEs the skills and tools in understanding their learners (their learning styles and needs) is an important step towards adopting a successful blended learning

design with the goal of getting them engaged in the learning process. Future studies could be conducted to better understand the actual use and outcomes of such use.

In terms of business innovation, the majority of TPs (82%) were actively involved in innovation activities in the last 12 months, of which half of the them introduced new or significantly improved programmes and services. Our results show that TPs that actively innovated in product innovation, process innovation, organizational and marketing innovation achieved better business performance. More WSQ TPs than Non-WSQ TPs participated in innovation. 1 in 4 Non-WSQ TPs did not innovate in any of the four areas at all in the last 12 months. Lack of skilled personnel and cost constraints were cited as top challenges for TPs to adopt innovation.

Lastly, the AEs were aware of their skill gaps when it comes to adoption of blended learning and learning technologies. AEs could face a great challenge in meeting varying learning needs of the learners as well as identifying the required performance or skills for job productivity, both in terms of time required and the complexity of developing blended learning, as well as pedagogical expertise for blended learning. Thus, working as practitioner in TAE could be quite a demanding profession which brings us to the issues and challenges of the professionalization and building of expertise of the AEs. This is itself an important topic requiring a separate discussion.

7. Skills and participation in professional development activities

Professional development (PD) in the broader sense is the development of a person in his or her professional role, which in this case refers to the field of education and training. It is the development that results from gaining increased experience and examining one's training / work systematically or reflexively (Bound, 2010; Villegas-Reimers, 2003). Traditional approaches to professional development include formal and informal experiences such as attending continuing formal education, courses and workshops, on-the job training or training by colleagues, mentoring, educational visits, reading professional publications, and so on. In addition to these traditional approaches, PD can be understood as learning through access to mentors, undertaking challenging roles, projects, tasks, accessing a range of resources through interaction with a wide range of professional networks, and more (see Bound, Sadik, Evans & Karmel, 2018). As Bound et al (2018) noted, PD conceived of as the traditional delivery approach is limited in meeting the needs of freelancers. In planning and developing different forms of professional learning activities, it is important to know the level of skills among the practitioners, acknowledging that there are new people in the field who require initial training, those who are really experienced and strong practitioners, and those who are in between. Apart from knowing the level of skills of the professionals in training and education, it is crucial to know the needs of the job and emerging practices, approaches and also roles. Indeed, professional development is not a simple area, as noted by Cepic and Masic:

“Professional development is a collaborative process that provides follow-up, implies continuity, individual and institutional responsibility, material and professional support, relevant sources, satisfying the needs of teachers and schools, social recognisability and credibility and differentiation regarding specific needs. It is questionable as to what extent the professional development of adult educators really satisfies the stated criteria., (Cepic & Masic, 2016, p. 151)

This chapter will not tackle all the areas as mentioned above, rather the focus will be on the participation of adult educators in traditional professional development activities, their self-reported skills proficiency, skills needs and what skills their employers think they need to improve on. This is an initial but important step to understand the professional development of the TAE professionals, in particular, AEs; and from here, we can move on to other areas such as potentially rethinking what is meant by PD that includes paying attention to the needs of the considerable number of freelancers in the sector, planning and provisioning appropriate PD activities or on professionalization of the sector. This chapter analyses our data on PD or learning activities that are job-related and in which AEs have participated during the 12-month period prior to the survey.

7.1 Skills proficiency of TAE professionals

TAE professionals self-reported their level of proficiency by using 5 Likert scales: 1=Not proficient, 2=Somewhat proficient, 3=Proficient, 4=Slightly more proficient than required, 5=Much more proficient than requires.

Ranking the self-rated skills proficiency of the TAE professionals, the top five skills that showed up include generic skills, namely communication, problem solving, teamwork, leadership and digital literacy. For job specific skills, the professionals considered themselves proficient in their core tasks: AEs scored themselves highly in subject fields ($M = 4, n = 518$) and facilitation/training for classroom-based learning ($M = 3.8, n = 503$); TMs scored themselves highly in training administrations & operations ($M = 3.7, n = 233$); and HRDs scored themselves highly in human resource planning and implementation. See Table 26.

Table 26: Skills proficiencies reported by TAE professionals

AEs					
Top skills	M	n	Least skilled areas	M	n
Job-specific skills: subject knowledge	4	518	Job-specific skills: learning analytics	2.9	478
Generic skills	3.8	505	Job-specific skills: entrepreneurship	3	481
Job-specific skills: facilitation/training for classroom-based learning	3.8	503	Job-specific skills: curriculum design and development for e-learning	3	478
Assessment for classroom-based learning	3.7	488	Job-specific skills: assessment for e-learning	3	473
Knowledge and understanding about learners' industries	3.7	510	Job-specific skills: learning and performance consultancy	3.1	481
TMs					
Top skills	M	n	Least skilled areas	M	n
Generic skills	3.7	236	Job-specific skills: learning technology & system management	3.2	224
Job-specific skills: training administrations & operations	3.7	233	Generic skills: digital literacy	3.4	240
Job-specific skills: leadership and management	3.5	232			
HRDs					
Top skills	M	n	Least skilled areas	M	n
Generic skills	3.5	138	Job-specific skills: talent management	3.1	138
Job-specific skills: human resource planning and implementation	3.2	138	Job-specific skills: organisational development	3.1	138
Job-specific skills: performance management	3.2	138			

The table also shows the least skilled areas for the same groups of professionals. For HRDs, they see a need to improve their skills in talent management and organisational development. For TMs, they expressed the need to improve their skills in learning technology & system management, and digital literacy. Similarly, for AEs, across the different employment status (see also table 27), they were least proficient in the emerging field such as tech-enabled skills and learning analytics.

Table 27: Skills proficiencies of adult educators, by employment status

	Overall	Full time	Freelance	Industry practitioner
Subject knowledge	4.0	4.0	4.1	4.1
Facilitation-classroom	3.8	3.9	3.9	3.8
Generic skills	3.8	3.8	3.9	3.9
Assessment-classroom	3.7	3.9	3.8	3.6
Industry knowledge	3.7	3.7	3.7	3.7
Curriculum design and devt (CDD)-classroom	3.6	3.7	3.6	3.5
Pedagogy	3.6	3.6	3.7	3.5
Facilitation- workplace learning	3.5	3.5	3.5	3.6
Facilitation-Overall	3.4	3.5	3.5	3.4
Assessment-workplace learning	3.4	3.5	3.4	3.4
CDD- workplace learning	3.4	3.4	3.4	3.4

<i>Learning needs analysis</i>	3.4	3.4	3.4	3.4
<i>Assessment- Overall</i>	3.3	3.4	3.4	3.2
<i>CDD-Overall</i>	3.3	3.4	3.3	3.3
<i>Facilitation-blended learning</i>	3.3	3.3	3.4	3.3
<i>CDD-blended learning</i>	3.2	3.3	3.3	3.2
<i>Assessment-blended learning</i>	3.2	3.3	3.2	3.0
<i>Facilitation-tech-enabled learning</i>	3.1	3.2	3.2	3.0
<i>Learning and performance consultancy</i>	3.1	3.2	3.2	3.1
<i>Assessment-e-learning</i>	3.1	3.2	3.1	2.9
<i>CDD-tech-enabled learning</i>	3.1	3.1	3.1	3.0
<i>Entrepreneurship</i>	3.0	3.0	3.1	3.0
<i>Learning analytics</i>	2.9	3.1	2.9	2.8

7.2 Participation in professional development activities

Table 28 showed the percentage of adult educators' participation in different areas of professional development. Domain knowledge, communication skills, classroom-based facilitation, problem-solving and pedagogical skills were top of the list. Although learning analytics, entrepreneurship, and learning and business consulting skills were reported as being among the least proficient skills AEs possessed, they were also the least attended PD activities.

Table 28: Areas that adult educators participated in their PD activities in the last 12 months

	Overall	Full time	Freelance	Industry Practitioner
Subject knowledge	76.3	75.7	77.9	79.1
Communication	70.8	69.3	70.9	75.7
Industry knowledge	66.5	68.4	65.2	72.2
Facilitation: classroom-based learning	66.2	67.0	65.2	70.4
Problem-solving	61.3	57.8	59.5	69.6
Pedagogy	61.3	67.0	61.4	53.9
Teamwork	59.6	59.6	55.1	66.1
Curriculum design & development: classroom-based learning	59.6	64.2	55.7	60.0
Assessment-classroom	59.6	61.5	57.6	62.6
Leadership	54.4	52.8	56.3	58.3
Facilitation: workplace learning	53.8	52.3	51.3	61.7
Facilitation (Overall)	53.7	54.1	53.6	55.4
Digital literacy	53.1	55.1	52.5	52.2
Learning needs analysis	51.0	50.0	49.4	58.3
Curriculum design & development (Overall)	50.7	53.7	48.9	50.2
Facilitation: blended learning	49.9	49.5	51.3	51.3
Assessment: workplace learning	49.4	51.8	42.4	53.0
Curriculum design & development: workplace learning	49.0	49.5	43.7	57.4
Curriculum design & development: blended learning	48.8	50.5	51.3	45.2
Assessment (Overall)	48.2	50.5	45.7	48.3

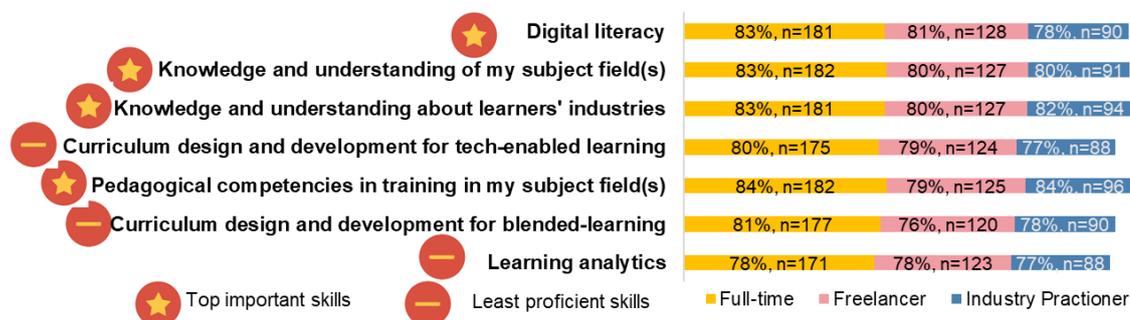
	<i>Overall</i>	<i>Full time</i>	<i>Freelance</i>	<i>Industry Practitioner</i>
Curriculum design & development: tech-enabled learning	45.2	50.5	44.9	38.3
Facilitation: tech-enabled learning	44.9	47.7	46.8	38.3
Assessment: blended learning	43.7	46.3	42.4	41.7
Assessment: e-learning	40.2	42.2	40.5	35.7
Learning and performance consultancy	39.8	43.1	39.9	34.8
Entrepreneurship	37.9	38.1	39.9	38.3
Learning analytics	37.6	39.0	36.1	38.3

7.3 Skills importance and professional development needs

Apart from finding out the topics or areas of their PD activities in the last 12 months, we would also want to know how important certain skills are at this point in time for the work of our TAE professionals and the need for further development. Adult educators reported that generic skills such as communications, teamwork, and problem-solving, as well as subject knowledge and learners' industry knowledge are important in their work.

Figure 14 shows the areas that were on top of their list when it comes to need for professional development. These were the skills that were most important to AEs as well as those they were least proficient in.

Figure 14 Top professional development needs reported by AEs (based on top important skills and least proficient skills)



Digital literacy and tech-enabled learning were the areas that AEs and the TAE professionals in general, may need to improve urgently. This is to ensure that they are kept up-to-date on the current training and learning trends. Table 29 shows that more than half of the AEs (and other TAE professionals) expressed need for improvement in their least skilled areas.

Table 29: Number of TAE professionals with learning needs by least skilled areas

Least skilled areas (AEs) (n = 535)	Learning needs (Moderate level and above)
Job-specific skills: learning analytics	55.5%
Job-specific skills: entrepreneurship	54%
Job-specific skills: curriculum design and development for e-learning	59.1%

Job-specific skills: assessment for e-learning	54.6%
Job-specific skills: learning and performance consultancy	55.2%
Least skilled areas (TMs) (n = 252)	
Job-specific skills: learning technology & system management	59.6%
Generic skills: digital literacy	62.7%
Job-specific skills: curriculum and programme management	56%
Job-specific skills: quality management	56%
Job-specific skills: leadership & management	56.8%
Least skilled areas (HRDs) (n = 138)	
Job-specific skills: talent management	65.9%
Job-specific skills: organisational development	67.3%
Job-specific skills: learning & development	68.1%
Job-specific skills: performance management	69.6%
Job-specific skills: human resource planning and implementation	63.1%

7.4 Support and barriers in professional development

Almost half (47.7%) the adult educators indicated that they did not need to pay for their professional development activities at all, and almost 1 in 3 of them received at least 50% subsidy or support from their training organisations or government for attending the professional development activities. See table 30. However, 1 in 5 AEs (19.4%) still indicated that they paid more than half of the cost themselves for their PD activities.

Table 30: Cost for professional development paid by individuals

	Overall (n)	Overall (%)	Full time	Freelance	Industry Practitioner
None	255	47.7	55.1	36.7	49.6
1% - 25%	110	20.6	18.4	22.8	21.7
26% - 50%	66	12.3	8.7	15.2	13.0
51% - 75%	30	5.6	6.9	5.1	5.2
More than 75%	74	13.8	11.0	20.3	10.4
Total	535	100.0	218	158	115

In reporting the barriers or challenges in participating in professional development activities, see Table 31, AEs listed the top 3 barriers as cost, time and lack of incentives. What also caught our attention was that 32% said that not having the pre-requisite such as qualifications, experience or seniority was a barrier for their participation. This could be an area for further investigation as lifelong learning movement aims to minimise the barriers to participating in educational or learning activities.

Table 31: Barriers to participating in PD

Barriers to participating in PD	Percentage of AEs who answered 'Agree' & 'Strongly Agree'
Too expensive/ Unaffordable	63.0
Conflicts with my work	63.0
No incentive for participating	52.5
No time due to family responsibilities	51.6
No relevant opportunities	49.8
Lack of support from my organisation	49.1
The quality of programs was not good	40.0
Not having the pre-requisites	31.7

Over half of adult educators stated that attending PD activities were mainly for personal growth and self-confidence, see table 32. Many of them also agreed that participating in PD was helpful for them to do their work better and may lead to brighter career prospects and work opportunities, although they generally did not result in promotion or salary increase.

Table 32: Benefits of PD

Benefits of PD	Who answered 'Agree' & 'Strongly Agree'	
	<i>n</i>	%
Personal growth	329	61.5%
Self confidence	290	54.2%
Doing my work better	257	48.0%
Career motivation	227	42.4%
More work opportunities	222	41.5%
Sense of belonging to the organisation/ community	194	36.3%
Appreciation and recognition from colleagues	174	32.5%
Job security	176	32.9%
Salary rise	88	16.4%
Promotion	78	14.6%

7.5 Summary

Our TAE professionals scored themselves highly in generic skills. Our AEs appeared more proficient in generic skills and traditional classroom mode of training while least proficient in tech-enabled learning, entrepreneurship and learning analytics.

Most AEs and TMs (80%) felt that they are competently equipped with the necessary skills sets (in pedagogy, domain and business acumen) to perform their current work. Domain knowledge, consultancy skills, and pedagogical skills for classroom learning were rated as most important by AEs; they are also the top skills that most AEs self-rated themselves as proficient in. Tech-enabled learning skills is rated least important (4 on a scale of 6) hence they are also reported as the least proficient skills of the AEs. Similarly, learning technology management and digital literacy skills are rated least important and least proficient by TMs. If technology is expected to permeate every part of society and the economy, the lack of proficiency in digital and technology related skills could hamper the progress of not only the professionals but also the sector as a whole.

In this study, we took into consideration how the skills are relevant to AEs' work and whether their current proficiency is sufficient to meet the demand from their work (and future work) as a way to determine the priority for further development (Mishkind, 2016). Participating in continuing professional development and lifelong learning is critical to help them in performing their current job/work well and also support and enable them to thrive in the sector. We therefore argue that our AEs need to be strong self-directed learners and future-oriented learners who have a life-long and life-wide capacity for learning, (see detailed discussion in Chen, Pavlova & Ramos, *forthcoming*).

In envisaging that AEs should possess pedagogical skills with deep domain expertise, possess new skills that are industry-relevant, embrace lifelong learning and innovation, share best practices, and engage in collaboration and co-creation (SkillsFuture, 2016), support for PD and lifelong learning activities become more important. In addition to the PD structure and monetary support, we should look at how training organisations could create naturally-occurring learning opportunities for their adult educators and professionals to grow their expertise at work.

In designing learning activities or PD programs for AEs, we could also learn from the many literature on professional development of teachers since there are many similarities between teachers and AEs. Understanding what is already in the literature about professional development of teachers could be a good starting point when it comes to thinking and designing about professional development of adult educators, particularly now that we know how much and what type of learning activities that adult educators have participated in, how they learn in formal, non-formal and informal settings, and what skills they found important, impactful, and are in need of further professional development.

8. Awareness of and response to TAE policies

The SkillsFuture initiative aims to prepare Singaporeans for the future economy and inclusive society. Skills upgrading and deepening are essential to ensure a highly-skilled and competitive workforce. As such, high quality training and adult education is needed to keep Singaporeans competitive in the labour market and be future-ready for the changing work. Since the launch of the SkillsFuture movement in 2015, many programmes, initiatives and policies are introduced to support TPs and TAE professionals to design and deliver quality training that is accessible and relevant to Singaporeans. For example:

- Capability Development Grant (CDG): a financial assistance program that helps a business owner build his/her capabilities across 10 key business areas, ranging from adopting new technologies to raising service standards, from overseas expansion to staff training etc. This grant lends support to a wide range of capabilities that upgrade the initiatives to help the business grow locally and globally (CDG Grant Program, 2017).
- Enhanced Training Support for SMEs: enables SMEs that sponsor their employees (Singaporean Citizens and PRs) to enjoy increased course fee funding and absentee payroll cap (SkillsFuture, 2017).
- English @ Workplace Scheme: Encourages companies to provide customised English training at their workplace, so as to help workers perform better at work and access better training opportunities.
- iN.LEARN 2020: initiative to drive the use of blended learning to enhance the quality, accessibility and effectiveness of learning. It helps TPs leverage technology and innovation in training design and delivery to better serve the needs of enterprises and individuals, and reach out to more customers. In terms of AEs, it helps AEs to grow their knowledge and expertise in their design, development and delivery of blended learning, which in turns increase their market value and lead to more business engagement (SkillsFuture, 2019).
- SkillsFuture Study Award: provides opportunities to develop and deepen specialist skills needed by future economic growth sectors or in areas of demand. It also provides opportunities for those who already have deep specialist skills to develop other competencies (SkillsFuture, 2019a).
- SkillsFuture Earn and Learn Programme: This work-study programme provided fresh graduates from polytechnics and the Institute of Technical Education (ITE) a head-start in careers related to their discipline of study. It provides them with more opportunities, after graduation, to build on the skills and knowledge they acquired in school, and better supports their transition into the workforce. Participating employers can recruit local fresh talent and prepare them to take up suitable job roles (SkillsFuture 2019b).
- SkillsFuture Credit: aims to encourage individual ownership of skills development and lifelong learning. All Singaporeans aged 25 and above will receive an opening credit of S\$500. The subsidy can be used for approved courses. This helps TPs reach out more customers and serve the needs of individuals (SkillsFuture, 2019c).
- Training and Adult Education Professional Competency Model (TAEPCM): a skills reference framework with clear descriptions of competencies and proficiencies to guide skills deepening and broadening efforts; navigate and chart career pathways across key CET functional domains; benchmark standards of capability development programmes; align skills development efforts with organisational goals (IAL, 2016). This model is now replaced by TAE Skills Framework (SkillsFuture, 2018b).

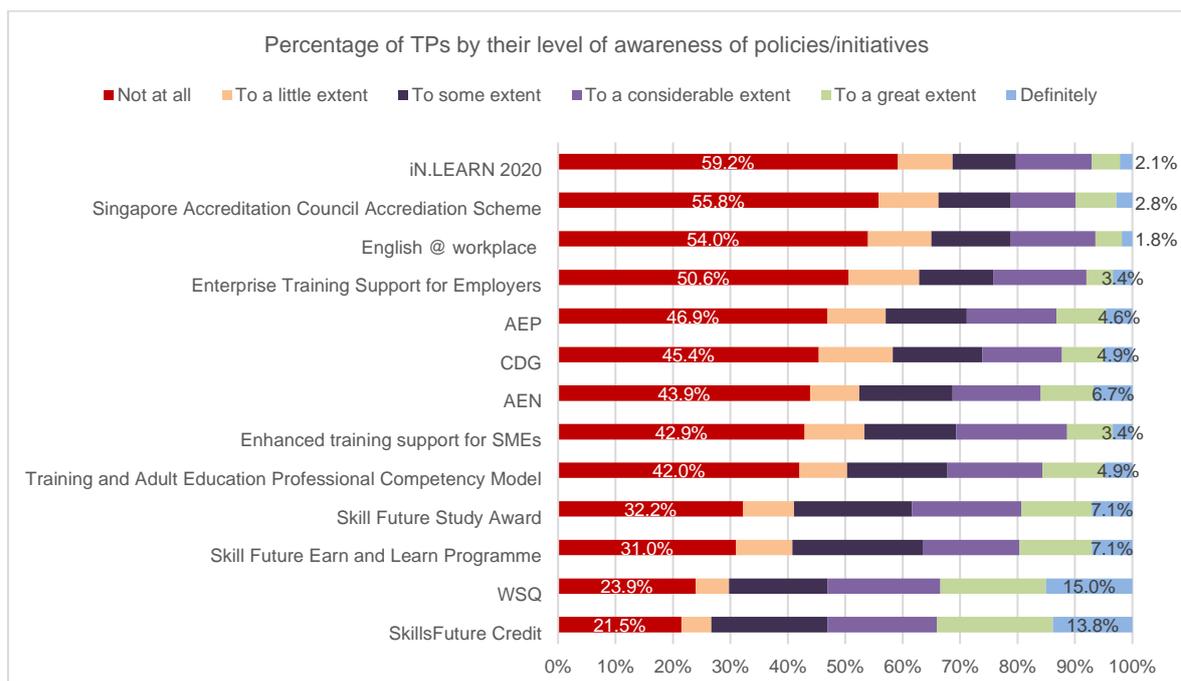
- Workforce Skills Qualifications (WSQ) system: a national credential system used for training, developing, assessing and certifying skills and competencies in the workforce (SkillsFuture, 2017a).
- Adult Education Network (AEN): a community of TAE professionals coming together to connect for opportunities, collaboration and learn for continuing professional development and skills acquisition. AEN aims to nurture TAE professionals to become enablers to facilitate the implementation of national initiatives such as the iN.LEARN2020 and Industry Transformation Maps under the SkillsFuture movement (IAL, 2018a).
- Adult Education Professionalisation (AEP): aims to advance the professional standards and identity of AEs as professionals recognised for both pedagogical and professional excellence (IAL, 2018b).
- Singapore Accreditation Council (SAC) Accreditation Scheme: SAC is the national authority for the independent accreditation of conformity assessment bodies in Singapore. SAC's primary function is to accredit conformity assessment services, such as testing, calibration, inspection and certification (SAC, 2018).

With the launch of these programmes, initiatives and policies, how did TAE providers and professionals respond to them? To what extent were they aware of such initiatives? How have these policies and initiatives helped TAE providers and professionals? What were the challenges TAE providers and professionals faced in response to those policies and trends? These are important questions that we will address in this section.

8.1 Awareness of TAE policies

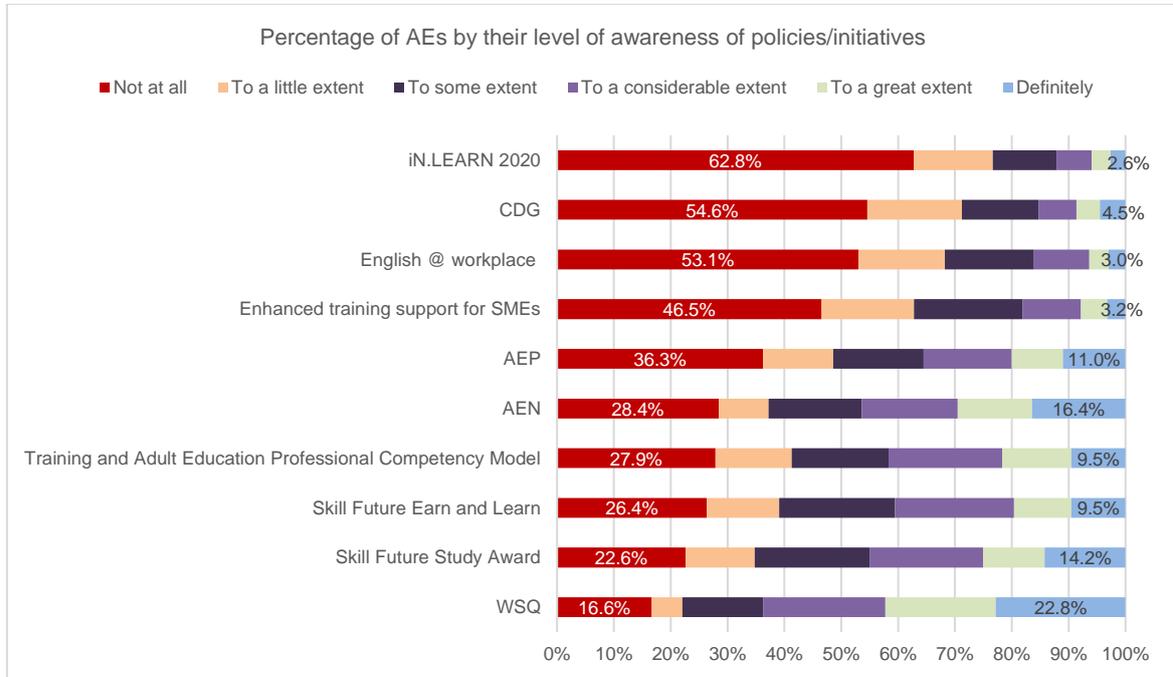
Of the 326 surveyed TPs, more than half of them responded that they were not aware of the following policies or initiatives: iN.LEARN 2020 (59%, $n = 193$), Singapore Accreditation Council Accreditation Scheme (56%, $n = 182$), English @ Workplace (54%, $n = 176$) and Enterprise Training Support for Employers (51%, $n = 165$). See Figure 15 for the rest of the findings.

Figure 15: Awareness of policies/initiatives reported by TPs (Percentage of TPs by their level of awareness)



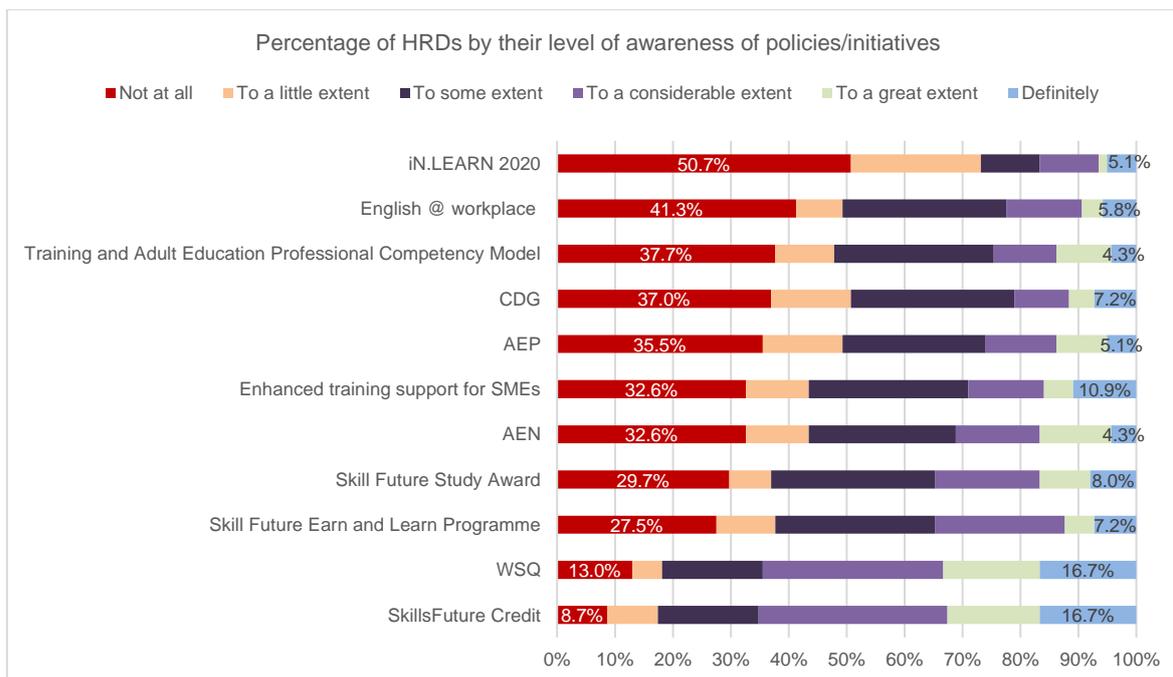
Of the 535 surveyed AEs, more than half of them responded that they were not aware of the following policies/initiatives: iN.LEARN 2020 (63%, $n = 336$), CDG (55%, $n = 292$) and English @ Workplace (53%, $n = 284$). See Figure 16 for the rest of the findings.

Figure 16: Awareness of policies/initiatives reported by AEs (Percentage of AEs by their level of awareness)



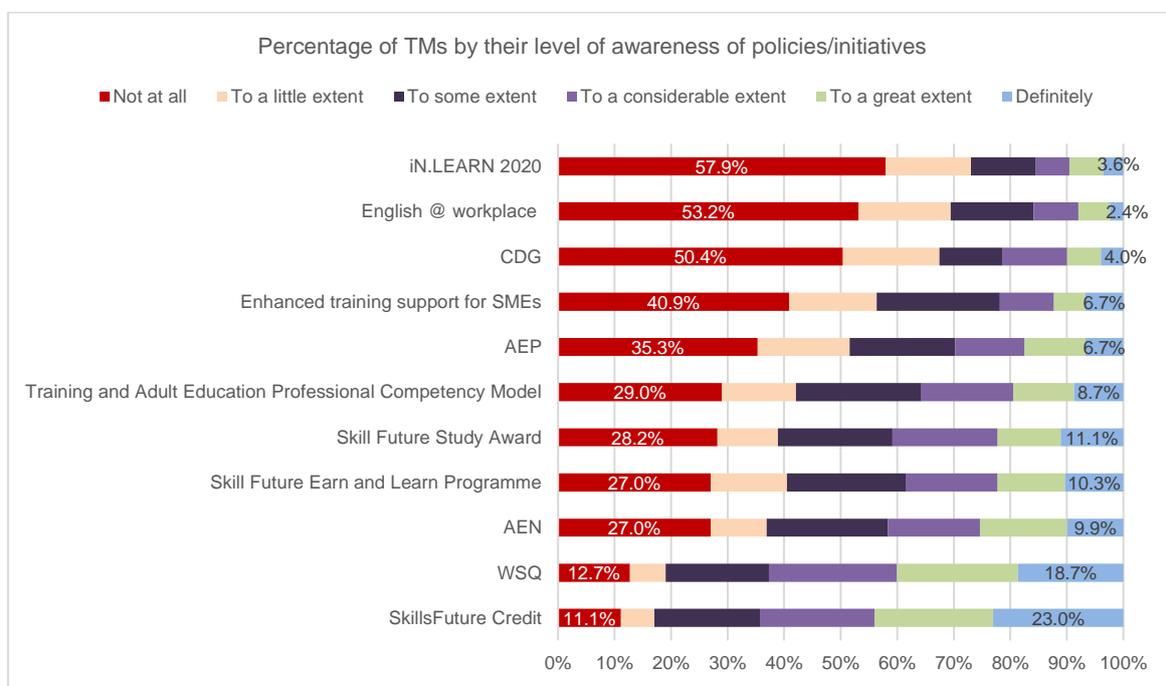
Of the 138 surveyed HRDs, more than half of them responded that they were not aware of iN.LEARN 2020 (51%, $n = 70$), while 37.7% ($n=52$) were not aware of TAEPCM. See Figure 17.

Figure 17: Awareness of policies/initiatives reported by HRDs (Percentage of HRDs by their level of awareness)



Of the 252 surveyed TMs, more than half of them responded that they were not aware of the following policies/initiatives: iN.LEARN 2020 (58%, $n = 146$) and English @ Workplace (53%, $n = 134$). See Figure 18.

Figure 18: Awareness of policies/initiatives reported by TMs (Percentage of HRDs by their level of awareness)



Overall, policies that have the lowest level of awareness amongst the TAE providers and professionals were iN.LEARN 2020, English @ workplace, CDG, SAC Accreditation Scheme and Enterprise Training Support for Employers. The results suggest that we need to explore further, the relevance of the initiatives to TAE professionals, and the ways in which professionals develop such awareness and also take-up of such opportunities. Such information can feed into outreach efforts. For those who had some awareness and had tapped on the initiatives, their reported challenges in tapping these initiatives include time-consuming, complicated application process, difficulty in meeting criteria, and lack of available information among others, see table 35a. About 21% of TMs, 18% of AEs, 10% of TPs, and 6% of HRDs generally reported that the said initiatives were not relevant.

8.2 Tapping on TAE policies by training providers and TAE professionals

The policies that TPs and TAE professionals tapped on most are SkillsFuture Credit and WSQ (around 1/3 or more). Policies that had the fewest TPs and TAE professionals tapped on include iN.LEARN 2020, English @ Workplace, Singapore Accreditation Council Accreditation Scheme and Enterprise Training Support for Employers, see table 31. These were also the same policies that were least known to TPs and TAE professionals.

Among the TAE professionals, a sizeable number of them (36.6%, $n = 196$) didn't tap on any of TAE related initiatives in the past 12 months.

Table 31: Policies tapped on by TPs and TAE professionals

Policies / Initiatives	TPs (n=326)	AEs (n=535)	HRDs (n=138)	TMs (n=252)
SkillsFuture Credit	37.7%	N.A.	35.5%	36.1%
WSQ	29.4%	31.4%	34.1%	36.1%
AEN	11.3%	20.2%	8.7%	12.7%
Enhanced training support for SMEs	9.8%	3.9%	11.6%	13.5%
Skill Future Study Award	8.9%	14.8%	10.1%	9.1%
Skill Future Earn and Learn Programme	8.9%	7.3%	9.4%	8.7%
CDG	7.4%	2.4%	10.1%	6.7%
AEP	5.5%	5.6%	5.8%	5.6%
Training and Adult Education Professional Competency Model	5.2%	8.8%	8%	6%
Enterprise Training Support for Employers	4.3%	N.A.	N.A.	N.A.
iN.LEARN 2020	2.5%	0.9%	3.6%	2.8%
Singapore Accreditation Council Accreditation Scheme	2.8%	N.A.	N.A.	N.A.
English @ workplace	1.8%	0.9%	2.8%	1.6%
None	N.A.	36.6%	19.6%	17.5%

For AEs who tapped on these policies and initiatives, about 60% reported that these initiatives helped them grow client / customer base and also deepen existing and new knowledge and skills (e.g., through gaining WSQ training qualification and attending AEN).

For TPs, among those who tapped on the TAE related policies and initiatives, about half mentioned it helped them grow client / customer base and revenue (e.g., through offering SkillsFuture Credit programmes). Among those few that tapped on iN.LEARN 2020, about half mentioned that they adopted new modes of delivery such as e-learning because of the funding.

8.3 Challenges in tapping on TAE policies

Table 33 lists the challenges faced by TAE providers and professionals tapping on TAE related policies and initiatives. Of the 326 surveyed TPs, time consuming (30.4%, $n = 99$) was the top challenge in tapping on these policies/initiatives for both WSQ TPs and Non-WSQ TPs. They also found the application process complicated (23.9%, $n = 78$), difficulty in meeting criteria (22.4%, $n = 73$), and lack of available information (21.2%, $n = 69$). The challenges seemed to be more so for Non-WSQ TPs; more than 1 in 4 Non-WSQ TPs mentioned the difficulty in meeting criteria as compared to less than 1 in 5 WSQ TPs which said so. See also table 34.

For the TAE professionals, their top challenges were similar with the TPs namely, time-consuming, lack of available information, difficulty in meeting criteria, and complicated application process, see table 32.

More than 1 in 3 TPs and AEs mentioned they had multiple challenges while 2 in 5 TPs and 1 in 4 AEs reported having no challenges at all.

Table 33: Challenges in tapping on TAE related policies

Challenges in tapping on policies	TPs	AEs	HRDs	TMs
Time consuming	30.4% n = 99	28.6% n = 153	15.2% n = 21	23.4% n = 59
Complicated application process	23.9% n = 78	18.5% n = 99	15.9% n = 22	20.6% n = 52
Difficulty meeting the criteria	22.4% n = 73	18.9% n = 101	15.9% n = 22	21.4% n = 54
Lack of available information	21.2% n = 69	26% n = 139	11.6% n = 16	23% n = 58
Not relevant	10.4% n = 34	18.1% n = 97	6.5% n = 9	20.6% n = 52
No support from my organisation	4.9% n = 16	15.5% n = 83	2.9% n = 4	7.9% n = 20
Slow response to application	14.7% n = 48	11% n = 59	9.4% n = 13	13.9% n = 35
Multiple challenges	37.7% n = 123	35.5% n = 190	20.3% n = 28	36.1% n = 91
No challenges faced	39.6% n = 129	25% n = 133	55.1% n = 76	30.2% n = 76

Table 34: TP's challenges in tapping on TAE related policies by TP category

		WSQ TP	Non-WSQ TP
<i>Difficulty meeting the criteria</i>	n	32	35
	%	18.5	26.7
<i>Lack of information available</i>	n	38	29
	%	22.0	22.1
<i>Not relevant to my organisation</i>	n	23	11
	%	13.3	8.4
<i>Slow response to enquiry and/or application</i>	n	29	16
	%	16.8	12.2
<i>Complicated application process</i>	n	40	32
	%	23.1	24.4
<i>Time consuming</i>	n	54	36
	%	31.2	27.5
<i>No support from my organisation</i>	n	6	9
	%	3.5	6.9
<i>No challenges faced</i>	n	64	54
	%	37.0	41.2

8.4 Summary

That 26% of TPs did not rely on government funding for their training business, it is not surprising that awareness of TAE related policies and initiatives were not high. About 10% of the TPs and 18% of the AEs thought that the initiatives were not relevant. As the reasons given were merely ticked and not elaborated, further exploration is needed for a clearer view of where the problems to access really lie, in order to inform the implementation and outreach efforts for better uptake of those schemes and better serve the targeted groups.

9. Challenges faced by TPs and TAE professionals

Both training providers and professionals were asked about their challenges in working in the TAE sector. The TPs reported both their business challenges and challenges in organising professional development activities. The TAE professionals reported their challenges in TAE related work.

9.1 Training providers' challenges

The top challenges that TPs reported they faced in the TAE sector were the overall business challenges such as market competition and government-related regulations (66.1%), operational challenges such as allocation of resources and delivery of products and services (57.1%), and HR-related challenges such as recruitment of qualified trainers (39.5%). More than 70% of TPs reported multiple challenges with business and operational ($n=152$) being the most commonly cited combination, followed by business and HR ($n=95$), and HR and operational ($n=93$). About 17% of TPs reported not having any challenge at all, see table 35.

Table 35: Top challenges reported by training providers

Top Challenges	Overall		WSQ TP		Non-WSQ TP	
	n	%	n	%	n	%
Business challenges (e.g., changing market, government-related policies)	214	66.1	118	68.6	86	65.7
Operational challenges (e.g., resource allocation, delivery of products/ services to market needs)	185	57.1	106	61.6	71	54.2
HR/Training challenges (e.g., recruitment, staff development)	128	39.5	68	39.5	54	41.2
Establishing partnerships	96	29.6	60	34.9	33	25.2
Training is not a priority in enterprises	69	21.3	45	26.2	22	16.8
Learners lack of motivation for training	67	20.7	31	18.0	29	22.1
Multiple challenges	235	72.1	131	75.7	92	70.2
No challenge	55	17.0	22	14.0	22	16.8

In the FGDs, the TPs shared more details on the challenges they face. Responding to the digital disruption and changing TAE market which was mentioned as one of the biggest challenges to the TPs, for example, one of the private TPs shared that it was not easy to introduce tech-enabled learning and blended learning although they see it as a trend for the future. They were uncertain about the return on investment in tech-enabled learning and also worried about possible changes in government policies:

But sometimes we also need to be mindful of when introduce new technologies, whether that technology is really just a 6 months or is it going to be a long term gain. Because some day you introduce some thing it could be just like that, 6 months. Last time we talked about biotechnology and so on, need people go into the course of biotechnology but after that, it's like I got nothing. So that's why private players, private organisations are reluctant to invest in this tech-enabled. ... Of course, unless we see, but even if we see we are still very cautious. Because the changes are not within our hands. The policy making is still, any change in the

policy, a change in the minister could be a change in everything. [TP_E, private ATO, 30+ years in TAE business]

For IHLs, they see the need to prepare the faculty for the new trends:

Actually at IHL we are very cognizant of the trends that's taking place. So just looking at this one. So many years before the e-learning came about, actually the traditional form of teaching and learning continues. But the moment when the e-learning bug caught up, and so even things like workplace learning caught up, we began to, we began to acknowledge that these are things that you cannot ignore. Because the generation that we are dealing with is very comfortable with this. So we better get ahead of the goal before we get left out. So as a result, things like e-learning training, workplace training for the faculty becomes a core aspect as part of their training roadmap. [TP_M, a CET institute in IHL]

IHLs' expansion into the TAE sector also reshapes the market, affording both challenges, and opportunities if all the parties involved co-ordinate to embrace the change and collaborate to build on each other's strengths:

I think it's partly also because of the push towards CET and how the whole business model is changing into IHL as well... Whether they are PET or CET. Because, you know, students can come in and after one year, go leave and go and join the industry, come back again... We draw upon the strength of the school. Other IHLs the same. And... all 27 sectors everybody take a bit and then make sure you all talk to each other. Don't try to outdo with certain coordinator. So is managed. [TP_D, a CET college in IHL]

But I think the main point here is without an unfair playing field, that means, so that there is not too much of a policy intervention that favours one over the other, but allowing a more level playing field, I think it is a fair game for the public and the private if we look at the window of 3 to 5 years. Because if organisations don't change, you know? The propensity for them to be able to change in the future is less likely by year, you know? They say that the predictor of future behaviour is really past behaviour. So the longer you take to change, the more difficult it would be to change in that sense. So I think 3 to 5 years give enough time because it allows, whether it's public or private, to make the necessary change, to invest the necessary resources, to get the leadership team aligned to the fact that the future looks like this, kind of thing. So that's where I see, in 3 to 5 years' time, definitely CET is going to play a more and more significant role. [TP_Q, a private ATO, 25+ years in training and consultancy]

But what is important is that kind of collaboration. Because right now, you have training providers who are in their own space. The IHL have their own space but now come into this space. Right? But all of us are in the community working for the TAE sector. So I think that, that collaboration, that dialogue need to, need to start. Yeah. Rather than both sides working independently and trying to encroach into each other. [TP_V, a private ATO, 5 years in training and consultancy]

The point about the need to collaborate across private and public IHL providers is important and perhaps marks the beginning of a shift from a highly competitive sector where freelancers and TPs saw collaboration as an intrusion into their market and fear of losing their IP to a more collaborative space, indicative of a maturing of the sector (Bound, 2017).

Another main challenge TPs reported is the lack of skilled AEs who could provide quality blended learning and consultancy for customised learning and performance solutions:

Because as you move into the blended journey, one big consideration is knowing how to be able to develop effective learning at a very reasonable cost. Do you basically go for better, higher quality capability of your instructional designer, or you just go get products that can go out to market sufficient for purpose now? So that's a very tricky... question. And I don't think we have the best and sufficient level of instructional designers out there. [TP_Q, a private ATO, 25+ years in training and consultancy]

Because, I think if you do it on the basis of associate, that means you'll engage people on your associate basis. So, that... the person can function in multi-function, subject matter expert, instructional design, facilitator of learning, especially when moving to the blended learning space, not just classroom. And even for that matter, organisational development capability. Because you can train, you can facilitate, you can have great instructional design, but when you are dealing with organisations, you are really dealing with multi variables of... culture, structure, strategy and people. So, it's a Superman requirement that we are asking for. You don't have that many... in terms of supply and demand going around. [TP_R, a private TP, 20+ years in training and consultancy]

These quotes highlight the shifting demands and capability needs in the sector, the different ways of conceptualising the work of the sector e.g. “*but when you are dealing with organisations, you are really dealing with multi variables of... culture, structure, strategy and people. So, it's a Superman requirement that we are asking for*”.

When it comes to organising professional development activities for their staff, TPs' top challenges were lack of funding or the training was too expensive (40%, $n = 116$), inability to spare more staff time for training (37.2%, $n = 108$), and hard to find time to organise training (29%, $n = 84$). The same top two reasons were the same barriers that AE reported, i.e., affordability (too expensive) and conflict with work. A higher proportion of non-WSQ TPs than WSQ TPs reported lack of funds/ training being too expensive as one of the barriers in organising professional development activities for their staff. About 23% of TPs did not find any challenge in organising professional development activities, see table 36.

Table 36: Barriers to organising professional development reported by TPs

Challenges by TP	Overall		WSQ TP		non-WSQ TP	
	n	%	n	%	n	%
Lack of funds/ training is expensive	116	40	45	30.2	59	48.8
Not able to spare more staff time for training	108	37.2	63	42.3	41	33.9
Hard to find the time to organise training	84	29.0	46	30.9	35	28.9
Difficulty finding TP who can deliver where and when we want it	63	21.7	32	21.5	20	16.5
Staff are not keen	57	19.7	28	18.8	21	17.4
A lack of local training providers	46	15.9	17	11.4	19	15.7

Challenges by TP	Overall		WSQ TP		non-WSQ TP	
Lack of training/qualification in the subject areas we need	32	11.0	22	14.8	10	8.3
Lack of knowledge about training opportunities	22	7.6	10	6.7	12	9.9
Staff don't need it	10	3.5	3	2.0	7	5.8
Lack of provision	9	3.1	5	3.4	2	1.7
No improvement in performance from past training	9	3.1	5	3.4	2	1.7
Multiple challenges	165	50.6	83	48.0	68	51.9
No challenge	66	22.8	37	24.8	25	20.7

One of the TPs shared why they were reluctant to strengthen internal capabilities:

And it boils down to the cost in that regard. Yeah. Of course, another way is to hire your own instructional designer in house. And then you basically put them through professional development and be patient lah. Wait lah. 1 year, 2 years, 2 projects, 4 projects, 6 projects. By the time they finish the 6 projects, probably they will be better definitely, right than the first project. You have... you have to really figure that out. We work a lot on... working with adjunct on project basis, precisely because of this reason... Hopefully we will be able to source the right trainer for the right industry, for the right context, for the right level of staff... If you would employ a full time and train them, it's, it's not, it's virtually impossible for you to have so many diverse kinds of different types of trainings. In so many purposes. [TP_Q, a private ATO, 25+ years in training and consultancy]

This quote also explains the rationale why training providers engage freelancers. It seemed to the training providers that hiring an adjunct who has adequate skills and experience would be a faster and less-costly solution to their staff needs, rather than spending time and resources to groom their internal talents. For them, hiring a freelance provides flexibility in meeting diverse needs and requirements of clients. This could meet their business needs in the short term, however, if no effort has been taken to develop their own staff, the development of TAE capabilities could be hampered in the long run.

9.2 TAE professionals' challenges in working in TAE sector

Table 37 presents the challenges reported by AEs by their employment status. Competitive market, uncertain career trajectories and difficulty in responding to changing TAE market were the top challenges faced by our AE respondents.

Table 37: Challenges of AEs by employment status

		Overall	Full time	Freelance	Industry practitioners
<i>Competitiveness in the training market</i>	n	207	71	77	41
	%	45.8	37.8	57.0	44.6
<i>Career trajectories not certain</i>	n	184	80	58	34
	%	40.7	42.6	43.0	37.0
<i>Difficulty in responding to the changes in TAE market</i>	n	154	83	31	31
	%	34.1	44.2	23.0	33.7
<i>Lack of work-life balance</i>	n	144	70	30	30
	%	31.9	37.2	22.2	32.6
<i>Lack of access to professional development</i>	n	139	57	33	41
	%	30.8	30.3	24.4	44.6
<i>Access to continuous flow of work</i>	n	128	44	54	20
	%	28.3	23.4	40.0	21.7
<i>Difficulty in understanding and/or adapting to policies/requirements</i>	n	122	61	25	22
	%	27.0	32.5	18.5	23.9
<i>Capability to provide quality training</i>	n	114	48	20	32
	%	25.2	25.5	14.8	34.8
<i>Lack of opportunities to share tips and ideas with peers and colleagues</i>	n	110	47	39	18
	%	24.3	25.0	28.9	19.6
<i>Difficulty in establishing and/or maintaining networks</i>	n	106	43	34	19
	%	23.5	22.9	25.2	20.7
<i>Access to satisfying work</i>	n	72	30	14	21
	%	15.9	16.0	10.4	22.8
<i>No challenge</i>	n	83	30	23	23
	%	15.5	13.8	14.6	20.0

Of the 535 surveyed AEs, 84.5% ($n = 452$) indicated at least one challenge in their work with competitiveness in the TAE market as the top challenge (45.8%, $n = 207$) followed by uncertainty of career trajectories (40.7%, $n = 184$), and difficulty in responding to the changes in the TAE market (34.1%, $n = 154$). Among the challenges, the most cited combination was competitiveness in the TAE market with uncertainty in career trajectories ($n=91$), followed by competitiveness in the training market with access to continuous flow of work ($n=69$), and uncertainty of career trajectories with the

access to continuous flow of work ($n=61$). A higher proportion of freelance AEs (57%, $n = 77$) conveyed this as a challenge than full time AEs (37.8%, $n=71$) or industry practitioners (44.6%, $n=41$). In the focus group discussion, some AEs commented it was not easy to get continuous work or get fair pay because there is a surplus of AEs in the market:

There is like a... based on what you all have said and what I've personally experienced, there's an overwhelming supply of people coming into this industry. On the other hand, I don't think that the demand is constant. [Yvonne, 56 years old, freelance, facilitator, assessor and curriculum developer]

I think one stress point is for some of them the trainers, the rates have gone really low. Too many people. Too many trainers around here. ... And the worst part is that a lot of people are undercutting. Now why ATOs are giving a rate, some as low as \$20 an hour for training ah...yup. Ok, but the fact is this ah, people are still taking the job. [Sherlyn, 50, freelance, curriculum developer and facilitator]

This point was mentioned by a few adult educators in our focus group discussion. This suggests maybe there are too many “generalists” in the TAE sector. Over time, it could mean a decline in experienced AEs, or perhaps more likely less new blood entering an overcrowded sector.

One suggested AEs should establish their own niche areas to survive and thrive in the competitive TAE market or to venture out of Singapore:

If you want to stay in this industry, you have to find something that is relevant where only you can teach and no one else can teach, ideally. But, of course it's hard to come by. The other hand is to actually go, go overseas, where you get the respect and things is still new. Because Singapore is a small market. Otherwise, you will be constantly flogging a dead horse. [Dawson, 54 years old, industry practitioner, facilitator and curriculum developer]

Responding to the changes and new trends in the TAE market was also one of the top challenges reported by the AEs. AEs were thinking how to prepare themselves for blended learning and how to support learning that is becoming more mobile and bite-sized:

One of the things we are thinking about more future forward is bite sized, micronized learning. Because I think besides the view of blending it, you know? We also need to look at the lifestyle of people. Busy executives, on the move. The millennial generation, how they learn, you know? They snack rather than they have a full meal of learning. How can support that? What roles do we play? [Alan, 38 years old, full time, facilitator]

Some viewed resilience to changes and being versatile as survival skills for freelancers:

Freelancers, we are like the lion on the Savannah, right? If there's where the preys, you go there. You learn skills. If the prey climb on tree, you learn to climb a tree. We're not like the lion in the zoo. If you do your show everyday, and then you get your regular diet, you don't have to worry much. Yeah. So not, not to say the lion in the zoo are [peddling] back, but it's just a comparison. So we're versatile as freelancers. If you want to find prey in the snow, you find it. You need to fly, you learn how to fly. Right? So actually, you, you adapt, is it? Or, or you actually specially pick up skills, you know? Yeah, I guess that's the name of the freelance game, right? [Cheng Kai, 44 years old, freelance, adjunct lecturer, learning and performance consultant]

So you see, actually the future or the trend for CET is we will see more e-learning plus more workplace learning. So even things like machine learning, AI, learning analytics, and whatever

you want to call it. We know these are things that become core. I think to do blended or not do blended depending on the depth of your freelance career. ... If you are really in-depth entrepreneur, you have your own business and you are marketing yourself aggressively, then certainly, you need to, to have a blended, you know? You need to know what are the software, what are the LMS that is most effective. You, you need to be fully immersed into the developing technologies. [Kumar, 52 years old, freelance, facilitator, learning and performance consultant]

It seems that these adult educators are picking up the new trend in the TAE market. They view tech-enabled as the way forward and therefore need to have entrepreneurial capabilities to survive and thrive in a competitive labour market.

The focus group discussions also revealed some other issues that frustrated AEs:

- Learner profile does not match the course purpose or pre-requisite. E.g., some training providers enrol aunts and uncles to attend modules that are supposedly to be conducted in English only, which they barely understand.
- Learners are not ready for tech-enabled learning: e.g., many learners need help to use the ICT tools; more than half of learners do not complete the online learning before classroom session.
- Adult educators normally do not have learners' information before the classroom session, which is not helpful for them in customising the materials and facilitation to learners' needs or levels.
- It is almost impossible to fail learners even when they were not ready to complete the training, because most training providers expect 100% pass rate to get the course subsidy.
- Pay is delayed or under-cut: a few freelancers complained that the private TPs they worked for are not willing to pay for the e-learning facilitation segment. AEs also perceived TPs pay less than the actual online facilitation requires, for example, TPs pay only one-hour e-learning facilitation fee although AEs may need to spend two hours or more to support individual learners online.

We also looked at challenges that TMs, and HRDs faced in working in the TAE sector. Of the 138 surveyed HRDs, 71% ($n = 98$) reported at least one challenge in their work; and the most cited combination of challenges was lack of work-life balance with difficulty in understanding and/or adapting to government policies/requirements ($n = 17$), followed by difficulty in responding to the changes in TAE market with lack of work-life balance ($n = 16$), and difficulty in responding to the changes in TAE market with difficulty in understanding/adapting to government policies/requirements ($n = 15$). Their top three challenges were lack of work-life balance (42.9%, $n = 42$), difficulty in responding to the changes in TAE market (41.8%, $n = 41$) and difficulty in adapting policies (38.8%, $n = 38$).

Of the 252 surveyed TMs, 82.9% ($n = 209$) mentioned that they encountered at least one challenge in their work; and the most cited combination of challenges was lack of work-life balance with lack of management support ($n = 32$), followed by difficulty in responding to the changes in TAE market with difficulty in understanding and/or adapting to policies/requirements ($n = 27$), and uncertain career trajectories with lack of work-life balance ($n = 26$). The top three challenges were career trajectories are uncertain (35.4%, $n = 74$), lack of work-life balance (34%, $n = 71$) and difficulty in responding to the changes in TAE market (31.1%, $n = 65$).

9.3 Summary

TAE sector in Singapore is heavily shaped by policies. However, about 30% of the TPs and TAE professionals expressed difficulty in understanding and/or adapting to policies/requirements. The TAE market being in constant change also requires the TPs and TAE professionals to not only keep on updating themselves on the changes in the field, but to “read” the sector and grow and develop to stay ahead of the game (see also Karmel, Bound & Rushbrook, 2013). However, the challenges of TAE as a business, and overall job and career issues by TAE professionals could be hampering their goal for growth and participation for continuing professional development. The data on the challenges faced by both TPs and TAE professional would be useful in the overall national discussion on the ways of supporting and developing the Singapore TAE sector.

10. Conclusion

The results of the TAE landscape study provide us a clearer picture of the TPs and TAE professionals especially the AEs. We now have some understanding of the TPs' business model, business performance and outlook; as well as the skills and job characteristics of the TAE professionals. We also found out the practices, as well as the challenges that training providers and adult educators have been facing in the sector, and their challenges in tapping into the different government initiatives that are meant to help them. The information gathered from this study could provide invaluable information and insights for TAE Industry Transformation and for future studies of the Singapore TAE sector.

The TAE sector is embracing learning technologies to respond to the changes in the market with close to half of training providers and 4 in 5 adult educators adopting learning technologies in their training programmes and services. However, our results also indicated that the technology enhanced learning seem not to be fully picked up among training providers yet, with 1 in 3 training providers were still doing classroom based training only, thinking it can meet the demand of the learners and enterprises.

Whether the mere adoption of learning technology should be taken as effective to enhance learning would require a closer look into how learning technologies are used and whether they are linked to better learner experience and learning outcomes, not just its mere use per se. Lack of expertise in technology enhanced learning design and delivery is one big obstacle reported by TPs in adopting learning technology in their programmes and services. The AEs were aware of their skill gaps when it comes to adoption of blended learning and learning technologies. They self-rated their proficiency in technology enhanced learning and blended learning as lower than traditional classroom mode of delivery. Adult educators also reported high need for continuing professional development in this area, indicating that they are future-oriented to embrace the changes in and new demand for future work. While they may see the use of learning technology as a trend, how to develop pedagogical expertise for technology enhanced learning may not be an easy process. However, understanding their challenges is an important first step towards capability development (see Cheng & Chen, 2019).

The findings provide TAE providers and AEs with an understanding of the environment in which they work, thereby potentially contributing to their strategic decisions about their personal career trajectories and organisational business development. It will also potentially enable TAE providers to better manage their programmes offerings and business models.

The findings provide some implications to policy and practice as well. The information about the skills proficiency and professional development needs can be useful reference for the design of needed professional development programmes. For policy makers, understanding the challenges faced by the practitioners can help them improve existing policies, design new initiatives, and roll out well calibrated interventions where necessary.

It also has implications for building partnerships among government agencies, enterprises, training providers and professionals to tackle issues related to capability development, infrastructure support and resources provisions for pedagogical and business innovation in the sector. All stakeholders in the ecosystem has a role to play to support organisations and professionals to be future-ready for a holistic and sustainable development of the TAE sector.

10.1 Limitation of the study and future studies

This study did not define the skills requirements or skills needs based on the level of the job whether at entry- or senior level. The different levels of job may require different perspectives on what skills are required, their importance and their extent. Also, the skills proficiency was self-reported which are open to biases.

The information about TPs' business performance gave us a glimpse of the state of the TAE sector. Though a third of TPs could be considered to be doing well in terms of adoption of up-to-date technologies, developing new products and customisation of products and services, more than 1 in 10 (13%) were far behind in these aspects. We need to study these companies deeper to better understand the business and provide the appropriate intervention to drive innovation and productivity in the TAE sector. Having a better understanding of their business position, and the challenges they face could provide useful insights for the best way of serving and helping the TAE sector.

The TAE landscape study shows the baseline information about the supply side of training programmes and services by training providers and TAE professionals. A study to include the adult learners and enterprises representing the demand side of training programmes and offerings could follow suit to allow us to see the match / gaps between the supply and demand of adult education and training in Singapore. It is important that the survey is repeated every few years to build up trending data to monitor labour market changes in the TAE sector and enhance the ways of assisting the development of the TAE sector.

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