institute for adult learning singapore

Adult Educator (AE) Typology

Final Report

Centre for Work and Learning

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About the Institute for Adult Learning, Singapore

By raising capabilities, catalysing innovation, and leading research in workforce learning, the Institute for Adult Learning (IAL) facilitates the development of an effective, innovative and responsive Continuing Education and Training (CET) sector that is able to meet the needs of industries and the workforce.

Funded by the Singapore Workforce Development Agency, IAL works closely with adult educators, business leaders, human resource developers and policy makers to transform the CET sector.

IAL thus contributes to ensure that CET is an effective strategy to sustain the competitiveness of Singapore and the employability of the workforce. Read more about us.

About the Centre for Work and Learning, IAL

The Centre for Work and Learning focuses on Continuing Education and Training system practices, learning design, teaching, and assessment in and across different settings and the implications for practice and policy. Our research includes the study of work and work environments and learning and development within these settings.

Our research employs a range of methodologies designed to deepen understanding of the ways in which contexts enhance and challenge learning and development opportunities. Our approach is to engage practitioners in the research process and thus develop a community of practitioner researchers.

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Executive Summary

Aim

The aim of this research project was to develop a typology of adult educators (AEs) and corresponding careers in Singapore.

Background

Locally, the practice of adult education is growing and changing, thus leading to heightened diversity. As such, information regarding AEs in Singapore is sparse and quickly obsolete. Committed investigation is necessary to provide more useful information on AEs. By providing information on who AEs are and how they conduct their careers, the findings of this project are designed to provide valuable input into the design of initiatives and programs to support AEs.

The Typology developed here can be used as a guide in the following ways:

Developers of AEs: to identify learning and development needs. Professional development initiatives need to take into account the different types of AEs, as AEs from one group will have very different needs from another group. ***The provision of this typology for the purposes of supporting programs, initiatives, practice and future research should be considered the primary contribution of this project.***

Employers of AEs: to identify the diversity of their team of AEs (diversity being a strength if dialogue is encouraged and enabled) and in the process identify the hidden assumptions the management team may have about curriculum design, AEs and their capabilities and how they should 'teach' learners and learning.

Method

The strategy employed follows three stages:

1. **Identify the characteristics of AE's work** using interviews and focus groups.

2. **Measure and classify AEs on these characteristics** using an online survey of adult educators in Singapore (N=430)

3. **Test the classification** by seeing if and how the groups identified vary along a set of variables that are of general interest to policy makers and practitioners.

Main Findings

The characteristics identified in the first stage that were used in the final typology were:

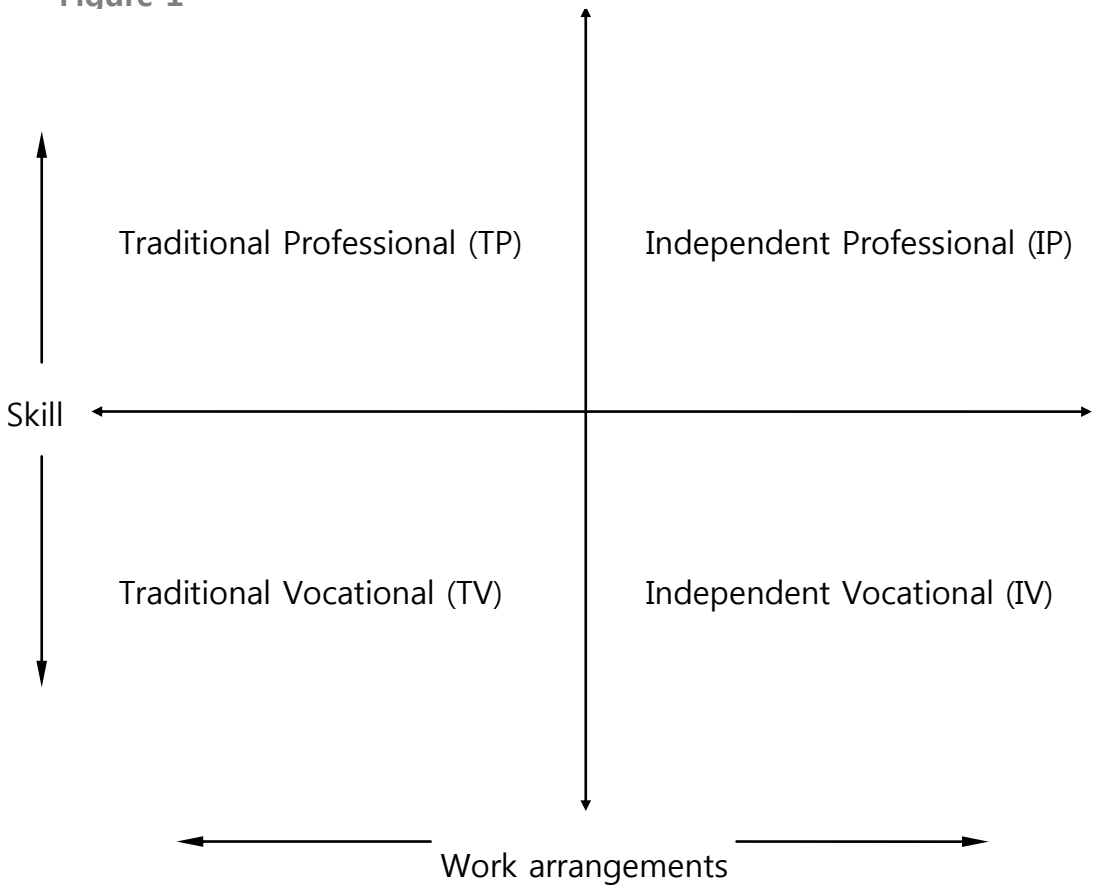
1. **AE Role:** AEs generally spend time in the four different roles of Training Needs Assessment (TNA), Program Development, Facilitation and Assessment (these roles were based broadly on IAL's TAEPCM model)

2. **Work Arrangements:** the number of employers the AE has at one time and over a 12 month period.

3. **Skill level:** the highest qualification of the AEs and the domain they tend to train in are used to identify skill level.

We found from the survey that AEs in Singapore can be classified into four broad types, plus an auxiliary group of AEs who do not spend the majority of their working time in AE roles as shown in Figure 1.

Figure 1



The four groups vary on two dimensions, that of work arrangements and skill level.

We tested the meaningfulness of the typology by analysing each of the group identified in the typology by a set of appropriate characteristics. Our findings were that a teacher-centred approach to training was more likely to be taken by traditional type AEs, particularly TV (traditional vocational) AEs than independent type AEs. Traditional types, both vocational and professional types, are less likely to identify themselves as adult educators and are less likely to take ownership of their careers. Independent Vocational AEs are particularly motivated by challenging conditions unlike traditional vocational trainers who were reportedly not motivated by challenging conditions.

Another finding revolved around the amount of time, on average, that each group spent doing different AE roles. There was no significant variation between the amount of time that Independent vocational and independent professional AEs spent on each

role. However, within the traditional types, we found that Traditional Professional AEs were more likely to spend a substantial amount of time on program development while Traditional Vocational AEs were more likely to spend time on assessment. In this report, we label this division of labour 'role specialisation'.

Summary of Recommendations

Recommendation 1:

Given that evidence of role-specialisation was found among groups of AEs in this study, further research regarding such role-specialisation and its desirability is warranted.

Recommendation 2:

As the roles of training needs analysis (TNA), development, facilitation or assessment are inter-related, integrating these roles into the AE job could lead to a continuous feedback loop that becomes an important source of continuous professional development. It also contributes to the alignment of curriculum, delivery and assessment.

Recommendation 3:

AEs need to be given opportunities for professional development to enhance their confidence and expertise to take on holistic role and be given opportunities to practice holistically.

To develop confidence and expertise, it is important to consider not just professional development as delivery, but also as inclusive of professional learning as growth, as praxis and as dialogical inquiry.

Recommendation 4:

That further research is conducted with employers and their AEs to better understand teaching practices and what mediates these practices.

Recommendation 5:

That the findings from this Typology be used to meet professional learning needs of AEs. For example, the whole sample of AEs identified strategic planning as a need. Traditional type AEs may benefit from professional learning that addresses career ownership and development and what it means to be an AE. Traditional vocational AEs may benefit from being exposed to a range of pedagogical practices and the philosophies behind these practices. As Independent AEs are motivated by the challenge construct, this could be used to further develop their strengths.

Recommendation 6:

That a seminar series be conducted with AE-employers to share this report, identify implications of the different types of AEs on their organisation and its goals, identify possible enhancers and barriers to different teaching approaches and to assist providers in developing a teaching and learning philosophy that guides their practices. That this be done with TPD.

Recommendation 7:

To pursue and promote policies as well as practices that promote an environment conducive to increasing professional identification among AEs within organisations. Such an environment features high levels of autonomy and flexibility along with a relatively flat organisational structure and reward system.

Recommendation 8:

Organisational forms that dominate the Continuing Education and Training (CET) sector in Singapore should be surveyed, with an eye to understanding how, and if, such forms are conducive to an increasingly professionalised AE workforce. That is, what are the organisational forms, practices and leadership approaches that encourage good practices and professionalism?

1 Introduction

1.1 Background

Locally, the practice of adult education is growing and changing, thus leading to heightened diversity. The environment of dynamism and ambiguity created by these developments has important consequences for policy, practice and research in the area of CET. One such implication is that information regarding AEs in Singapore is sparse and quickly obsolete. In addition the information we have about AEs is largely anecdotal, thus there is a need to investigate and better understand this diverse group of professionals.

The AE Typology project essentially addresses the question, 'Who are the AEs?' By addressing this question, the study aims to provide valuable input into the design of initiatives and programs to support AEs, thus those who are responsible for developing and professionalising AEs will find this report not only useful, but important in considering initiatives for AEs.

To operationalize the question, 'Who are AEs?', the researchers sought to understand their work, their work arrangements, and how they conducted their careers. The work was undertaken in three stages; the first stage used a qualitative approach and based on the findings from this stage a survey was developed. From the analysis of the survey, a Typology was then developed. In the third stage, we tested the meaningfulness of the categories identified. Further details of the methodology are available in section 1.1.1

The typology developed found five types of AEs. Like all typologies, it is a model and reflective of the general characteristics of a population. The findings of this study are useful for providers of AEs and those who develop and professionalise AEs. The findings assist in identifying where the individual 'sits' in comparison to others. It is unlikely that

any one individual will fit exactly into the typology as described in the following pages. However the Typology can be used as a guide in the following ways:

Developers of AEs: to identify learning and development needs. Professional development initiatives need to take into account the different types of AEs, as AEs from one group will have very different needs from another group. ***The provision of this typology for the purposes of supporting programs, initiatives, practice and future research should be considered the primary contribution of this project.***

Employers: to identify the diversity of their team of AEs (diversity being a strength if dialogue is encouraged and enabled) and in the process identify what hidden assumptions the management team may have about curriculum design, AEs and their capabilities and how they should 'teach', learners and learning.

Bearing in mind the reference made above to a typology being a model, it is useful at this point to define further what is meant by two key terms used in this report:

> ***Typology –*** A typology is a formal classification based on a proposed system of logic. While classification is common to everyday thinking and language, a typology is often developed and used when ad-hoc or informal classification is insufficient to meet the needs of stakeholders.
>
> ***Adult Educator -*** An adult educator is a person whose occupation involves the provision of education and training for adults. In the context of this report, the definition used comes from the Training and Adult Education Professional Competency Model (TAEPCM) developed by IAL. This model outlines the specific roles and the nature of work carried out by adult educators.

1.2 Method

The aim of this research project was to develop a *typology of adult educator careers* in Singapore that is both *empirically based* and *meaningful*.[1]

The strategy employed follows three stages:

1. **Identify the characteristics of AE's work**. The first step in the strategy was achieved through the analysis of relevant existing literature and the administration and analysis of 20 interviews of AEs and two focus groups with stakeholders such as HR personnel and managers of training providers. This stage identified possible dimensions of the typology.

2. **Measure and classify a sample of AEs on these dimensions.** This was achieved through the development and deployment of an online survey of AEs in Singapore to test the conclusions arrived at in the qualitative phase and to develop the typology. The online survey yielded a total sample of 437 AEs. This data was then analysed using cluster analysis in order to provide a classification of AEs in Singapore. The final typology is produced in this stage.

3. **Test that the classification is meaningful.** The final step in the strategy was achieved by testing to see if the classification was able to predict a set of AE characteristics that were not used in the classification but that were considered of general interest to policy makers and practitioners.

2 Key concepts used in developing the AE Typology

[1] See section 1.2 for definition of terms 'typology' and 'adult educator'

To address the question, 'Who are the AEs?', we drew on the key conceptual ideas of career mobility, career motivations and professional identity. The decision to draw on these concepts was iterative as we moved between discussions with stakeholders and the first qualitative phase. That meant, following initial analysis of discussions with stakeholders, we moved iteratively between the literature and key themes from these discussions. We then engaged in another layer of iteration, moving between literature and analysis of the qualitative data. The literature regarding these theories is briefly reviewed below.

2.1 Background on Career Theory

Career theory was initially developed in the United States of America at the beginning of the 20th Century. The traditional models within career theory are best exemplified by Parsons (1909) and Holland (1997). Both of these models map the individual's attributes and motivations with the intention of fitting the individual to a given occupation. A later development was the proposal of a career development framework. Here a career is defined as "the combination and sequence of roles played by a person during the course of a lifetime" (Super, 1980). It is from the career development framework that we find much literature focusing on 'career stages' and 'career maturity'.

As the working environment changed in the 1980s and 1990s, many found themselves in careers vastly different from the traditional careers of the early and mid 20th Century. Globalisation, technological advancements and flattening organisational hierarchies meant that many, instead of working in a single occupation and organisation for the majority of their career, were changing occupations, working for multiple organisations, freelancing and working part time. In this new environment, many researchers found that the traditional career models needed updating, giving rise to the concepts of the Protean and Boundaryless careers (Sullivan & Baruch, 2009), explained below.

2.2 Career Theory in this Project

2.2.1 Career mobility

The CET sector typifies conditions that result in increased career mobility; high growth in the services sector, the rise of the knowledge economy and the breakdown of the traditional boundaries of the firm. The popularity of notions such as 'boundaryless' and 'protean' careers has mirrored these trends. The boundaryless career is defined broadly as "...one of independence from, rather than dependence on, traditional organizational career arrangements." (Arthur & Rousseau, 1996, p.6).

While traditional research into career boundarylessness had focused on physical mobility, we follow Sullivan & Arthur (2006) by operationalising boundarylessness using two sub-dimensions: physical mobility and psychological mobility. Physical mobility is defined as an observable history of crossing organizational and/or domain boundaries while psychological mobility is defined as "...people's preference toward initiating and pursuing work-related relationships across departmental and organisational boundaries" (Verbuggen, 2012).

Based on the interview data for this study and also on findings from the study undertaken by IAL on freelancers in the CET sector (Karmel, Bound & Rushbrook, 2014), boundarylessness forms a high priority area of study in this project. Physical mobility was measured by asking the respondents how many times they changed employer in the recent past, how many times they changed functional domain and how many concurrent employers/clients they currently serve. Psychological mobility was measured using an established instrument.

The concepts of physical and psychological mobility prompt the question about what stimulates people to develop (or not) these forms of mobility? In other words what are the career motivations?

2.2.2 Career motivations

The Kaleidoscope Model of career (Mainiero & Sullivan, 2005) is a recent development in career theory. This model was developed to map and explain the motivations of workers in a relatively boundaryless career environment. The initial impetus behind the development of the Kaleidoscope model was to explain the growing 'opt-out' trend amongst workers in today's world, particularly female workers.

The Kaleidoscope model posits three possible motivators individuals can have that drive their career decision making. These are:

Authenticity: can I be myself in the midst of all of this and still be authentic?
Balance: if I make this career decision, can I balance the parts of my life well so that there can be a coherent whole?
Challenge: will I be sufficiently challenged if I accept this career option?

One factor making the Kaleidoscope career model particularly attractive in this study is its compatibility with the other dimensions used. As already mentioned, the Kaleidoscope model is a recent development and as such has been used and validated in an environment where boundarylessness has been at the forefront of the research agenda. The Kaleidoscope model has also been successfully applied in tandem with the dimension of career stage. Indeed in the article that originally posited the model, career stage was addressed explicitly with the discovery of specific regularities in how the dominant career motivator changes over the course of an individual's career.

Analysis of the interview data provided good support for the use of the Kaleidoscope model of motivations. All three - motivations authenticity, balance and challenge - were found to be relevant to the interviewees at varying levels.

2.2.3 Professional Identity

When addressing the question 'Who are the AEs?', we clearly need to investigate the notion of identity and in particular of professional identity. The prevalence in Singapore of second career adult educators and educators who concurrently maintain an established career in a separate domain makes professional identification a particularly salient dimension in the current study. During preparatory liaison with stakeholders professional identification was highlighted as an important feature of AE careers in Singapore and the interview data does not contradict this conclusion.

Professional identification is the extent to which an individual identifies with a given profession. The origins of the idea of professional identification can be found in social identity theory (Bamber & Iyer, 2002). Developed in the 1970s, and still widely researched today, social identity theory is concerned with how and why individuals identify with different social groups and the consequences of such identification. Much of the research into professional identification has focused on the tensions between professional and organisational identification and how such tensions can influence behaviour (Green, 1978).

2.2.4 Positioning

Another characteristic related to professional identity is how the individual positions him/herself in the labour market; we call this positioning. The term finds its home in the marketing literature. There it is defined as the market niche that a product or service targets for consumption. Here we are using the term in a similar sense. In this study we posit two indicators of positioning. The first is domain specialisation and the second is educational status. These two sub-dimensions are likely to be highly correlated. For instance, an AE training in finance is likely to have more education than a trainer in security or cleaning. While the literature is relatively scarce on positioning within adult education in general, we found strong evidence for this dimension in the interviews and in the focus groups.

2.4 Summary

Key concepts for this study are career mobility, the Kaleidoscope model (Mainiero & Sullivan, 2005), professional identity and positioning.

Physical mobility and psychological mobility Sullivan & Arthur (2006) were evident in the interview data and also in other research conducted by IAL (Karmel, Bound & Rushbrook, 2014). The Kaleidoscope model (Mainiero & Sullivan, 2005) suggests that authenticity, balance and challenge are key motivations for driving career decisions. Finally, professional identity and positioning were included as they were strongly evident in the interview data.

The theory discussed here not only iteratively informed the qualitative phase of this research but also the final analysis and discussion. In some cases, such as the case of career motivations, the literature was instrumental in the decisions to measure certain dimensions. In other cases it provided a framework for interpreting the reference group and interview data.

3 Results and Discussion

In this chapter, we describe the results from each of the three stages: stage one is the qualitative phase designed to inform stage two. Stage two is also the survey phase

while the final third stage is where we tested the meaningfulness of the typology developed from the analysis undertaken from the survey data.

3.1 Stage One – preparing for the survey

For stage one, we provide the basis on which decisions were made for the design of the survey, based on the literature, the first stage interviews and focus groups.

From the interviews and focus groups we identified two groups of variables: chief variables and auxiliary variables. Chief variables were identified for use in constructing the typology. Auxiliary variables were likely to be of interest to stakeholders and as such were subsequently used to profile the groups identified in the typology.

The following chief variables were identified:

- Physical boundarylessness
- Positioning
- AE Role
- Motivation
- professional identification

The following auxiliary variables were identified:

- Teaching approaches
- Proactive mindset
- Job quality
- Horizontal competencies

3.1.1 Physical boundarylessness

Physical boundarylessness was operationalised using the concept of ***work arrangements***. The work arrangements of an individual can broadly be placed on a

spectrum from internal to external. An internal worker is a full-time employee of an organisation, business or establishment. An external worker is a freelancer who is either completely self-employed or who works on a piece meal basis, usually for more than one organisation at the same time. Therefore in the survey we included questions on:

- number of current employers/clients.
- number of employers/clients over the past 12 months
- permanent/non-permanent

3.1.2 Positioning

Positioning refers to where in the market an AE is located, for example, training managers or training in literacy. Literacy training is considered to have lower status than training managers and this is reflected in the remuneration for working with these different client groups. Literacy trainers are paid considerably less than trainers of managers, despite the need for literacy trainers to have better pedagogical skills.

Given that this is how the market works, to operationalise positioning we used the idea of ***skill level*** that draws heavily on the skill level concept used in the Singapore Standard Occupational Classification (SSOC). There, skill level is used to help classify occupations into a hierarchy with managers and professionals at the top and cleaners and labourers at the bottom. Skill level in the SSOC is closely related to education level where the highest skill level is a university degree and the lowest skill level is primary or less. Thus our skill level dimension is an amalgamation of the domain-specialisation of the AE and the level of education.

- Years of education

- Domain-specialisation

3.1.3 AE role

AE role is the specific role that an individual takes within the AE occupation. This concept draws heavily on the TAEPCM, which separates AE functions into needs analysis, development, facilitation and assessment. While we do not necessarily consider each of these as roles in and of themselves, they are relatively independent functions that an adult educator may engage in. Thus, it is more accurate to say that it is the pattern of functions that constitute a 'role'.

We operationalised the AE role as the percentage of time spent by the respondents:

- conducting needs analysis
- doing curriculum and program development
- doing training and facilitation
- doing assessment
- performing non-AE functions

3.1.4 Motivations

The Kaleidoscope Model of career (Mainiero & Sullivan, 2005) was employed to measure motivations among respondents. As discussed, the Kaleidoscope model posits three possible motivators that the individual can have that drives their career decision making. These are:

- **Authenticity**: can I be myself in the midst of all of this and still be authentic?
- **Balance**: if I make this career decision, can I balance the parts of my life well so that there can be a coherent whole?
- **Challenge**: will I be sufficiently challenged if I accept this career option?

3.1.5 Professional Identification

Mael & Ashforth's (1992) instrument (Heckman, Steensma, Bigley & Hereford, (2009) measuring professional identification was used in order to gauge the extent to which respondents identified as 'adult educators'.

3.1.6 Auxiliary Variables

In addition to the characteristics above, several auxiliary dimensions were found to be of interest to the stakeholders. These dimensions were not used to construct the typology but their inclusion in the survey allowed for a more thorough profiling of the AEs within each established career type. These dimensions are listed below with brief explanations:

- **Teaching approaches**: covered a single dimension from teacher to student-centred teaching approaches.
- **Proactive mindset**: an instrument was used to measure the psychological aspects of boundareylessness which entails a proactive mindset toward career and career development.
- **Job quality**: we employed an instrument which measured the priorities that the survey respondent places on specific work conditions such as pay, stability and autonomy.
- **Horizontal competencies**: these are outlined in the TAEPCM and cover such competencies as communication, people management and project management.
- Demographics

Table 1: Dimensions and variables of the survey

Chief dimension	***Variable***
Work arrangements	Current no. of clients/employers

(Physical mobility)	No. of clients/employers previous 12 months
Skill level	Highest Level of Education
(Positioning)	*Domain-specialisation* as split into the following broad areas: • Manual • Professional • General services • Health and Social Services • Education • Leadership, communication and management • Literacy and Numeracy
AE role	The percentage of time spent: • conducting needs analysis • doing curriculum and program development • doing training and facilitation

	• doing assessment • performing non-AE functions
Motivations	The Kaleidoscope Model of Career Motivations (Sullivan, Forret, Carraher & Mainiero, 2009).
Professional Identification	Mael & Ashforth's 1992 instrument (Heckman, Steensma, Bigley & Hereford, 2009).
Auxiliary	***Variables***
Proactive Mindset *(Psychological mobility)*	Self Directed Career Attitudes Scale (Briscoe, Hall & Frautschy, 2006)
Teaching approach	The revised Approaches to Teaching Inventory (Trigwell, Prosser & Ginns, 2005)
Job Quality Indicators	Taken from the International Social Survey Programme: Work Orientations II
Horizontal Competency Needs	As outlined in the TAEPCM

In summary, the dimensions chosen in the qualitative phase of the study, while informed by the data, cannot be directly translated into a quantitative survey. Proxy variables were identified in order to operationalise the dimensions using variables. The variables and instruments chosen are outlined in Table 1.

3.2 Stage Two – the typology of AEs

3.2.1 Descriptive analysis

In Table 2 below, the descriptive statistics of the main, non-psychometric, variables used in the final cluster solution are shown. (Note that the results from the psychometric instruments such as proactive mindset and professional identification can only be analysed using comparisons within the sample and as such are not listed below.)

Table 2: Descriptive statistics

Variable	Mean	Std. Dev.
Work Arrangements		
Employers/clients (current)	1.72	1.88
Employers/clients (previous 12 months)	2.78	4.50
% Permanent Employees	0.73	
Skill Level		
Avg. years of education	16.67	1.93
% of respondents training in:		
Manual	0.33	
Professional	0.39	
General services	0.25	
Health and Social Services	0.16	
Leadership, Comm. And Management	0.22	
Literacy and Numeracy	0.07	
Avg. no. of domains training in	1.65	1.09

AE Role		
% of working time in:		
Needs Analysis	0.13	0.14
Design	0.19	0.18
Facilitation	0.35	0.24
Assessment	0.15	0.17
Total % of time as AE	0.83	0.28

Approximately half of the respondents indicated that they spend some fraction of their time doing each of the four functions while only 7% of respondents reported that they only ever do one of the four functions. While respondents varied according to the total time spent fulfilling AE functions, approximately 60% of the sample reported that they spend 100% of their time performing AE functions. The average respondent spends 35% of their time performing training and facilitation and only 13% of their time performing needs analysis. Very few respondents reported that they spend more than 20% of their time performing needs analysis, development or assessment. However, approximately three quarters of the sample reported spending more than 20% of their time performing training and facilitation.

27% of AEs indicated that they were **not permanently employed** and 23% of them indicated that they had more than one employer.

With regards to **education**, 31% of the resident workforce in Singapore holds a university degree.[2] Comparatively 72% of the AEs who responded in this study hold university degrees and approximately half of those are post-graduate degrees. While the sample is not necessarily representative of the total population of AEs in Singapore,

[2] http://stats.mom.gov.sg/Pages/Distribution-of-the-Labour-Force-by-Education-Age-and-Sex.aspx

it does suggest that Singaporean Adult Educators are relatively well educated. The most prevalent areas of **domain-specialisation** were the soft skills such as management, leadership and communication. Manufacturing was also a popular area of domain-specialisation. 63% of the respondents reported only specialising in one of the areas.

Further to the above variables, the survey covered **job quality preferences** and **horizontal competencies training needs**. The descriptive statistics of these variables are shown in Table 3.5 for the whole sample. The questions were asked with four-point Likert style responses, with one being strongly disagree and four being strongly agree. The job quality preferences overall indicates that AEs are less likely to be concerned about the choice of time and day that they work. They are also less concerned with pay and job security. An interesting job and a job that allows them to help others are more important on average to AEs in the sample.

Strategic planning was cited by AEs in the sample as the most important training need amongst the horizontal competencies covered. This was followed by people management and consultancy. Respondents reported that they felt they needed the least training in finance followed by project management.

Table 3: Job quality preferences and horizontal competencies training needs

Variable	Mean	Std. Dev.
Job Quality Preferences		
Job Security	3.20	0.78
High Income	3.15	0.72
Opportunity for Advancement	3.24	0.77
An Interesting Job	3.53	0.62
Work Independently	3.42	0.66

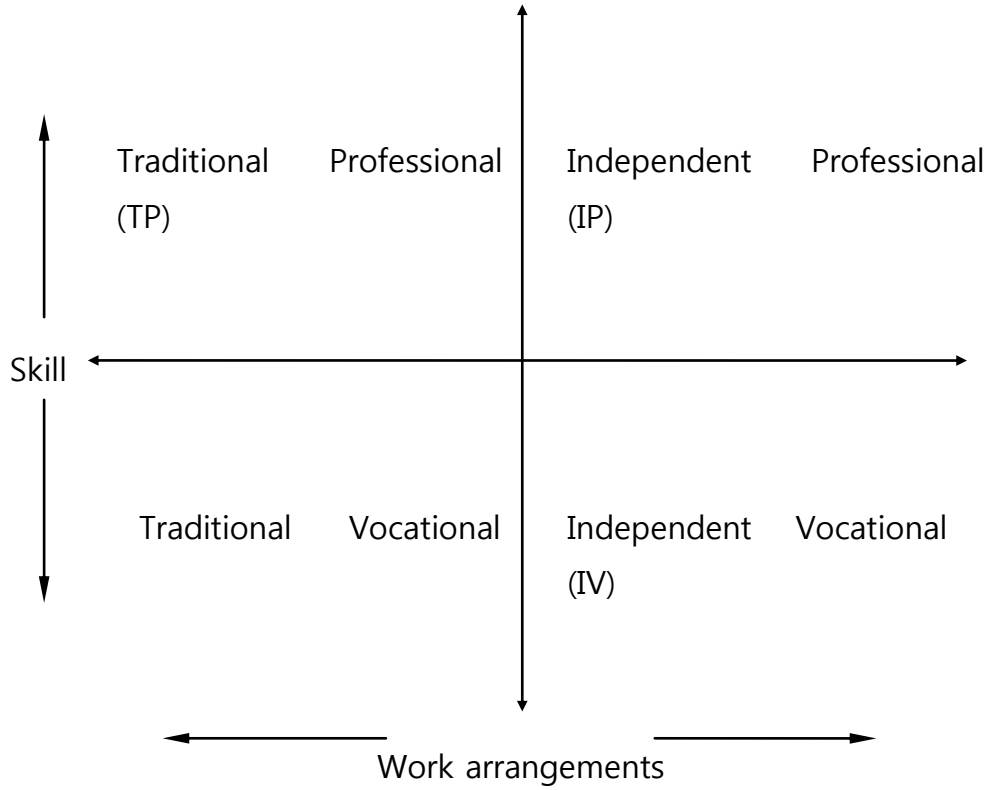
Helping Others	3.48	0.66
Useful to Society	3.39	0.71
Choice of Time and Days	3.03	0.91
Horizontal Competencies		
Training Needs		
Consultancy	2.89	0.85
Strategic Planning	2.95	0.82
Finance	2.71	0.91
IP Management	2.77	0.88
Technology Management	2.84	0.82
Project Management	2.71	0.86
Business Negotiation	2.75	0.82
People Management	2.86	0.87
% of Respondents Male	0.57	
Age	42.12	11.35

3.2.2 The AE Typology

Cluster analysis[3] was used to identify different groups of AEs in the survey data. A two-step approach was employed. In the initial step, a cluster analysis was conducted on the chief variables covered in section 3.1. This initial cluster analysis was conducted in order to restrict the variables to only those variables most useful in grouping the data. **Skill level**, **Work arrangements** and **AE role** were found to be the only useful variables in grouping the data. In the second step, the cluster analysis was conducted on the restricted variables only in order to uncover the final typology. The figure below provides a conceptual view of four groups identified by the final cluster analysis.

[3] Ward's agglomeration method was employed using a correlation-based matrix. All variables were standardised prior to clustering.

Figure 2: Types of AEs



In addition to these four groups, a fifth group we have labelled as 'Auxiliary' was uncovered by the analysis. This group is called auxiliary as they spend only 40% of their time on average doing AE work.

The table below provides the included variables' mean values for each of the five groups uncovered by the analysis.

Table 4: The mean values of the chief variables by the five types of AE

	TV	TP	IP	IV	Aux.	Total
Work Arrangements						
Employers/clients (current)	1.42	1.23	1.52	7.33	1.15	1.72

Employers/clients (previous 12 months)	1.76	1.53	2.48	17.47	1.25	2.78
% Permanent Employees	15.31	17.09	17.30	16.30	16.80	16.66
Skill Level						
Avg. Yrs of education	15.31	17.09	17.30	16.30	16.80	16.66
% of group training in:						
Manual	49	16	43	30	34	33
Professional	12	20	43	33	13	22
General services	25	46	52	33	33	39
Health and Social Services	20	29	37	23	14	25
Leadership, Comm. And Management	4	7	15	17	3	7
Literacy and Numeracy	7	13	21	30	19	16
Avg. no. of domains training in	1.31	1.43	2.65	1.97	1.31	1.65
AE Role						
% of working time in:						

Needs Analysis	13	21	6	10	9	13
Design	13	35	14	14	10	19
Facilitation	33	30	64	50	17	35
Assessment	38	12	12	14	6	15
Total % of time as AE	97	98	95	88	42	83

It was found that between the independent AE types and among the auxiliary group, AE role did not vary substantially. However, between the two Traditional AE types, we found that Traditional Professional types were more likely to engage in development (spending on average 35% of their time engaged in development) while Traditional Vocational type AEs were more likely to engage in assessment (spending on average 37% of their time engaged in assessment). This finding is discussed further in section 4.

3.3 Stage Three - the meaningfulness of the typology

We tested the meaningfulness of the typology by analysing each of the groups identified in the typology by the following characteristics:

1. Teaching approach
2. Professional identification
3. Motivations

4. Proactive mindset

5. Job Quality Preferences

6. Horizontal Competency Needs

The five different AE types vary significantly on these dimensions. There are several trends identifiable from our analysis:

Teacher-centred approach to training: traditional type AEs, particularly TV (traditional vocational) type AEs, are more likely to adopt a teacher-centered approach to training.
Professional Identification: traditional types, both vocational and professional types, are less likely to identify as adult educators.
Proactive mind-set where traditional type AEs are less likely to take ownership of their careers.
Motivation: Independent Vocational AEs are particularly motivated by the **'Challenge'** construct whereas traditional vocational trainers reported not being motivated by the 'Challenge' construct.

Table 5 indicates that the types have predictive ability in terms of age, gender, teaching approach, professional identity and proactive mindset. By predictive ability we mean that the groups differ in terms of age, gender etc. to an extent that is very unlikely to be purely random and more likely to be the result of real differences in the groups identified. As can be seen from table 5, the typology has little predictive ability with regards to job quality preferences, motivations and horizontal competency needs.

Table 5: The mean value of the auxiliary variables by the five types of AE

	TV	TP	IP	IV	Aux.

Motivations						
Challenge	-0.13	0.04	0.01	0.46	-0.08	*
Balance	0.13	0.02	-0.04	-0.42	0.02	
Authenticity	0.02	0.07	-0.04	0.00	-0.08	
Proactive Mindset	-0.05	0.07	0.16	0.27	-0.25	**
Professional Identity	0.03	-0.04	0.19	0.34	-0.21	**
Teaching Approach						
Teacher-centred	0.22	0.00	-0.14	0.06	-0.07	**
Constructivist	-0.05	0.00	0.18	0.26	-0.17	**
Job Quality Preferences[ǂ]						
Job Security	3.24	3.26	3.13	2.80	3.25	**
High Income	3.07	3.24	3.14	2.97	3.17	
Opportunity for	3.27	3.32	3.18	3.07	3.23	

Advancement						
An Interesting Job	3.43	3.59	3.55	3.57	3.50	
Work Independently	3.45	3.47	3.29	3.63	3.38	
Helping Others	3.48	3.47	3.52	3.73	3.38	
Useful to Society	3.34	3.35	3.47	3.67	3.36	
Choice of Time and Days	2.96	3.02	3.14	3.20	2.94	
Horizontal Competencies Training Needs‡						
Consultancy	2.80	2.93	2.83	2.79	2.96	
Strategic Planning	2.82	3.08	2.89	2.69	2.98	
Finance	2.77	2.61	2.75	2.55	2.80	
IP Management	2.80	2.67	2.76	2.77	2.86	
Technology Management	2.77	2.84	2.98	2.63	2.86	*

Project Management	2.80	2.70	2.76	2.37	2.72	
Business Negotiation	2.78	2.69	2.87	2.62	2.72	
People Management	2.88	2.90	2.65	2.77	2.99	*
% Male	66	51	54	72	56	*
Age	42.4	40.16	45.6	47.9	40.1	***

*p-value < 0.1, **p-value<0.05, ***p-value<0.001

† Measured on a four-point Likert with one being strongly disagree and four being strongly agree

Table 6 provides an outline of the different types, provided for ease of reference.

Table 6: Summary of AE Types

	TV	**TP**	**IP**	**IV**	**Aux.**
Work Arrangements	Traditional	Traditional	Mobile	Very Mobile	Traditional
Skill Level	Low	Mid	High	Mid	Mid
Role	Trainer/Assessor	Trainer/Developer	Trainer	Trainer	Trainer
Auxiliary					

Motivations	Balance	Authentic	Challenge	Challenge	Balance
Professional ID	Mid	Mid	High	High	Low
Teaching Approach	Teacher-centred	Mixed	Constructivist	Constructivist	Teacher-centred
Job Quality Preferences	Helping Others	Interesting Job	Interesting Job	Helping Others	Interesting Job
Horizontal Training Needs	People Management	Strategic Planning	Technology Management	Consultancy	People Management
Age	Young	Young	Mature	Mature	Young
Gender	More Men	Mixed	Mixed	More Men	Mixed

4 Implications and recommendations

In this study, we do not necessarily find that there is a need for additional training and support across the entire AE population in Singapore. The power of the typology approach is that we can look into different groups of AEs who are relatively heterogeneous across important dimensions to see if these groups differ in their needs and if we can identify specific problems or dynamics among them.

As this study is about addressing the question, Who are the AEs?, with the purpose to assist those responsible for developing AEs and ensuring appropriate and continuous professional learning and development for AEs, it is useful at this point to refer to previous research undertaken by IAL on this topic of professional learning and development. Understanding the different forms of professional learning and development possible is useful for the implementation and enactment of a number of the recommendations that follow. Stack and Bound (2012, p.154) identified four forms of professional learning and development:

Professional learning as delivery – provision of skill-building or content-based courses – knowledge can be seen as a commodity and humans as economic units to be developed

Professional learning as growth – the individual is seen as person, a part of many wholes with a life trajectory of learning

Professional learning as praxis – professional learning or growth that comes out of investigating and changing one's practice or changing the contexts surrounding one's practice. This enables participants to actively contribute and build systems while engaged in their own professional growth.

Professional learning as dialogical inquiry - professional learning that is conversational and within a community of inquiry, and which enables dialogue between different perspectives and possibilities

Figure 6 identifies how these different forms of professional learning and development can be used in relation to each other. These authors suggest that "a holistic approach to professional learning would consider all these dimensions synergistically (p.155). In the inner darker circle are specific systemic strategies that might support a holistic approach and in the outer circle are some of the reasons or values behind supporting a holistic approach. "*Professional learning as delivery* can still have a place within a wider framing of what professional learning can be – providing appropriately structured learning opportunities. *Professional learning as growth* provides a sense of overall individual direction and purpose. *Professional learning as praxis* provides an opportunity to contribute to collective endeavours. *Professional learning as dialogical inquiry* provides the process glue between the different metaphors (marrying different goals and voices between agents).

Figure 6: Professional Learning

As the 2009 ASEM LLL dialogue noted, professional development in Asia and Europe for adult educators "address the most important problem fields we will be facing in the future and in which practical political solutions need to be found and new perspectives identified" (ASEM, 2009).

The following sections pick up on issues identified in section 3.3, the testing of the meaningfulness of the typology, and make a number of recommendations.

4.1 Role specialisation

The two Traditional AE types were found to differ substantially on the amount of time they spend engaged in different AE roles; we call this variation *role-specialisation*.

One possible reason for role specialisation may be an implicit belief by providers and funders that the development process requires high levels of expertise while facilitation and assessment requires different, perhaps lesser, expertise.

Role specialisation was introduced in the 1900s by Henry Frederick Taylor for the manufacturing industry where very specific tasks were given to workers who were closely supervised. However, pedagogical and education literature has long confirmed that teaching should be approached from a holistic perspective (Schulman 1987), not as separate tasks. Karmel, Bound & Rushbrook (2014) found that for some AEs, these roles are offered and paid by providers as separate tasks and thus practiced separately. This results in more limited skills sets for these groups, less innovation and less confidence. Whereas when development, facilitation and assessment are understood and practiced not as separate practices, but as one, this appears to contribute to more flexible mind-sets and teaching practices. Thus, this logic of role-specialisation, while readily practiced to effect in industrial firms, may present certain obstacles for the professional educator.

Effective learning requires that curriculum is effectively aligned (Biggs &Tang, 2011; Cantwell & Scevak, 2010). Biggs and Tang (2011) wrote of the "constructive alignment" of curriculum for effective learning - that there is alignment between intended outcomes, learning activities and experiences (in a range of environments, e.g. classroom, online, workplace), and assessment. The assumption is that the tasks of developing and implementing a curriculum are undertaken by the one person, or a team that works closely together ensuring feedback loops.

The literature, including local study, suggests that learning and teaching can be more effective when there is limited use of role specialisation.

Recommendation 1:

Given that evidence of role-specialisation was found among groups of AEs in this study, further research regarding such role-specialisation and its desirability is warranted.

Recommendation 2:

As the roles of training needs analysis (TNA), development, facilitation or assessment are inter-related, integrating these roles into the AE job could lead to a continuous feedback loop that becomes an important source of continuous professional development. It also contributes to the alignment of curriculum, delivery and assessment.

Recommendation 3:

AEs need to be given opportunities for professional development to enhance their confidence and expertise to take on a holistic role and be given opportunities to practice holistically.

To develop confidence and expertise, it is important to consider not just professional development as delivery, but also as inclusive of professional learning as growth, as praxis and as dialogical inquiry.

4.2 Teaching approach

The study found that traditional type AEs, and particularly traditional vocational type AEs, are more likely to have a teacher-centred approach to training. It should be noted

that the findings are *relative*. That is to say that the traditional vocational group appears problematic *relative* to the other groups identified in the sample.

Teacher-centred approaches to training can be problematic for several reasons. Research shows that teacher-centred approaches to teaching encourage surface learning among students as opposed to in-depth learning, which has been found to relate negatively to quality learning outcomes (Prosser & Millar 1989; Trigwell, Prosser & Waterhouse 1999). Teacher-centred approaches to teaching have also been associated with negative emotions toward teaching among teachers (Trigwell 2011). However, teaching from a learner-centred or teacher-centred approach is only one of many possible ways of understanding the teaching and learning process. As Merriam, Caffarella and Baumgartner (2007) noted, the landscape on our understanding of teaching and learning is rapidly changing and there continues to be much to learn about learning in adulthood. It is for these reasons that we consider it important to better understand both the AEs and the providers as part of the context in which teaching practices are enacted.

Recommendation 4:

That further research is conducted with employers and their AEs to better understand teaching practices and what mediates these practices.

Recommendation 5:

That the findings from this Typology be used to meet professional learning needs of AEs. For example, the whole sample of AEs identified strategic planning as a need. Traditional type AEs may benefit from professional learning that addresses career ownership and development and what it means to be an AE. Traditional vocational AEs may benefit from being exposed to a range of pedagogical practices and the philosophies behind these practices. As Independent AEs are

motivated by the challenge construct, this could be used to further develop their strengths.

Recommendation 6:

That a seminar series be conducted with AE-employers to share this report, identify implications of the different types for their organisation and its goals, identify possible enhancers and barriers to different teaching approaches and to assist providers in developing a teaching and learning philosophy that guides their practices. That this be done with TPD.

4.3 Professional and proactive mindset

The study found that traditional type AEs are less likely to be identified as Adult Educators. Traditional type AEs made up a larger proportion of AEs than independent AEs. A lack of professional identification has negative repercussions for both performance and job satisfaction and may suggest a degree of alienation (Green 1978). In addition, traditional type AEs were found to have relatively low levels of proactive attitude toward their careers. A proactive attitude is indicative of individuals who are willing and able to flourish in a highly mobile and fluid labour market. Research suggests that this construct is also significantly related to performance and well-being (Briscoe, Henagan, Burton & Murphy 2012). Recent research into this construct also suggests that it can be instrumental not only in facilitating a freelance, high mobility career, but that it can be "built upon during unemployment to enhance successful re-employment" (Waters, Briscoe & Hall, 2014). Given the fluid nature of employment in the AE sector in Singapore, a proactive mindset towards career is likely to enhance success for this group, as was indicated in the Karmel, Bound & Rushbrook (2014) report.

Recommendation 7:

Policies and practices that promote an environment conducive to increasing professional identification among AEs within organisations should be pursued and promoted. Such an environment features high levels of autonomy and flexibility along with a relatively flat organisational structure and reward system.

Recommendation 8:

Organisational forms that dominate the CET sector in Singapore should be surveyed, with an eye to understanding how, and if, such forms are conducive to an increasingly professionalised AE workforce. That is, what are the organisational forms, practices and leadership approaches that encourage good practices and professionalism?

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