

## Mediating Effect of APEL on Competency and Enrolment in ODL Using Structural Equation Modelling

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**ARTICLE INFO:** Received: **02Oct 2019**; Revised: **29 Dec 2019**;  
Accepted: **10 Apr 2020**; Available Online: **17 June 2020**

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### Abstract

*The 11th Malaysian Plan aspires to increase skilled workers from 28% to 35% by the year 2020. One of the initiatives taken by the government is to widen access to higher education by enrolling candidates through Accreditation of Prior Experiential Learning, which could be a catalyst in elevating people's income by propelling their productivity. Accreditation of Prior Experiential Learning is a process through which learning achieved outside formal education is assessed, recognised and used to grant opportunity to learners who wish to enrol in an open and distance learning environment like Open University Malaysia. With an emergent emphasis given on lifelong learning, competencies such as language skills and information technology skills become imperative factors to be considered prior to enrolment of a candidate in open and distance learning. The main purpose of this paper is to confirm the mediating effect of Accreditation of Prior Experiential Learning on the relationship between competency and enrolment in open and distance learning using structural equation modelling. A review of previous literature was undertaken to show the methodological gap. Experiential Learning theory underpins the literature of this paper. A total of 400 usable questionnaires were obtained from candidates who wanted to enrol in Open University Malaysia in a face-to-face data collection process. Issues related to data normality were primarily resolved. The constructs were all found reliable (Alpha > 0.70). The structural equation modelling results (RMSEA = 0.08; GFI = 0.90; AGFI = 0.86; CFI = 0.94; TLI = 0.91; TLI = 0.91; NFI = 0.92; Chi Square = 3.27) were convincing to claim a model fit. Language skills ( $p = 0.01$ ), information technology skills ( $p = 0.01$ ) and Accreditation of Prior Experiential Learning ( $p = 0.01$ ) were all significant variables when examined against enrolment in open and distance learning using regression analysis. The quantitative evidence further confirms a mediating effect of Accreditation of Prior Experiential Learning on the relationship between 1) language skills and open and distance learning enrolment and 2) information technology skills and open and distance learning enrolment. Validated statistics from this study can provide theoretical novelty and practical insights to institutions in convincing people that Accreditation of Prior Experiential Learning is a significant mediator in the human development of a nation.*

**Keywords:** *structural equation model, accreditation of prior experiential learning, open and distance learning, competency and human capital*

## Introduction

According to Henschke (2014), today's world may be categorised as the birth of the new millennium of the learning society, where knowledge is considered as a country's most appreciated asset and primary source of power. The 11th Malaysian Plan aspires to increase skilled workers from 28% to 35% by 2020. According to Ahmad Izanee, Nik Azlina, & Kamariah (2014), one of the initiatives taken by the government is to widen access to higher education by enrolling candidates through Accreditation of Prior Experiential Learning (APEL) or also known as Recognition of Prior Learning (RPL). Recognition of prior learning (RPL) candidates can be defined as students who are generally older, have working experience, and usually have family and other non work-related responsibilities (Snyman & Berg, 2018). The future skills are needed in relation to developing APEL as part of lifelong learning efforts. The demand for APEL from industry and enterprises includes a focus on skills assessment in the workplace, reduced unemployment and more effective utilisation of education during the period of unrepresented demand.

## Research Problem from Focal Literature

Previous studies on APEL conducted in Malaysia (Jailani et al., 2013; Lillian, Fadzil, & Singh, 2011) have extensively focused on qualitative methodology. They have effectively studied APEL and competency from a qualitative standpoint. The quantitative results from the current work will be broadly in line with their efforts. The consensus view seems to be that APEL has been pursued as a tool of social justice within education sectors across the world (Cleary et al., 2002; Harris, 1999). Generally speaking, APEL is a process through which learning achieved outside formal education is assessed, recognised and used to grant opportunity to learners who wish to enrol in an open and distance learning (ODL) environment like Open University Malaysia (OUM). On logical grounds, there is no compelling reason to argue that the implementation of APEL will broaden access to higher education. It will address the issue of increasing a nation's effort towards evolving human capital for the benefit of the masses. In addition, it could be a catalyst in elevating people's income by propelling their productivity. As a consequence, a more systematic and theoretical analysis of APEL is required. With an emergent emphasis given to lifelong learning, competencies such as language skills and information technology skills become imperative factors to be considered prior to enrolment of a candidate in OUM using prior experiential learning.

Based on the critical review of Schwartz (2012), the open nature of experiential learning means that it can frequently be challenging to define what is and is not an experiential activity. People seem to have a negative perception of students who enrol through recognition of prior learning. Although studies on prior learning have been conducted by previous authors, the problem has been insufficiently explored. Due to this academic resistance towards the assessment of prior learning based on experience and competency, endorsing APEL remains a challenge. A total of 24% of the enrolment in OUM is from APEL whereas the remaining 76% enrol through the regular channels. This adds weight to the argument that the academic world must embrace the idea of APEL.

APEL seeks to recognise skills and knowledge that have evolved from formal, informal and non-formal learning experiences and is supposed by some to be 'a powerful tool for bringing people into the ODL learning system' (Hargreaves, 2006). Informal learning means learning which takes place continuously through life and work experiences whereas non-formal learning means learning that takes place alongside the mainstream systems of education and trainings, that may not be certified (Malaysian Qualification Agency [MQA], 2014).

This paper addresses the need for testing APEL as a mediator between competency and enrolment to narrow down the conclusion about APEL in scientific literature. Although the acceptance of prior learning faces many challenges, efforts have been taken by previous studies to highlight this problem. Given centrality of this issue, empirical evidence using the structural equation model (SEM) method is yet to be realised. This justifies that a study like the present one is much needed to draw firm implications. A strong argument against the negative perception on APEL can then be presented. In short, although there have been a number of studies on APEL (Ahmad Izanee et al., 2014; Cox, 2013; Dewey, 1938; Jailani et al., 2013; Pearson, 2000; Schon, 1987), a new approach is definitely needed to examine this issue.

### Research Objective

The main purpose of this paper is to confirm the mediating effect of APEL on the relationship between competency and enrolment in ODL using structural equation modelling (SEM). It is important to relate such objectives within the context of human capital development. In the current paper, human competency will be measured in terms of two main skills: 1) language skills and 2) information technology skills.

Table 1  
*Specific Research Objectives*

No	Specific Research Objectives
RO1	To analyse the association between language skills and enrolment in ODL
RO2	To analyse the association between information technology skills and enrolment in ODL
RO3	To analyse the association between APEL and enrolment in ODL
RO4	To examine the mediating effect of APEL on the relationship between language skills and enrolment in ODL
RO5	To examine the mediating effect of APEL on the relationship between information technology skills and enrolment in ODL.

### Contribution of the Study

This research contributes in two ways: 1) adding new knowledge and 2) providing information to stakeholders to aid them in making decisions about APEL. The availability of the APEL mechanism and competency of candidates has changed the way ODL institutions admit students into an ODL system, promoting democratisation of education. This introduces a possible confound in enhancing economic competitiveness by building on invisible workforce skills. Apart from promoting flexible learning, the experiment in this study will add to a growing corpus of research, narrowing the methodological gap. Structural equation modelling used is optimal (Richter, Sinkovics, Ringle, & Schlägel, 2016) for prediction of accuracy with high predictive power. The complex model proposed in this study, using interaction of new and old concepts, can uncover different relationships and this is a novel contribution to the body of knowledge. Methodological contribution brings in newness to this area because superior results will be achieved through the algorithms of SEM (Hooper, Coughlan, & Mullen, 2008). The findings in this study will also create a path for future researchers to shed light on possibly diverse ways by adding more variables to the proposed model. Consequently, it is hoped that this will prompt more research papers on APEL.

Institutions will benefit from the mean analysis presented in this paper because the new knowledge obtained will provide them with information for decision making. It remains clear that recognition of prior learning procedures used in Malaysia is still scarce and more work needs to be done to enhance its acceptability. Stakeholders will be more prepared to

advise students who do not have enough entry requirements by capitalizing on the findings of this paper. The descriptive analysis in the present work will provide a clear picture to the readers. By proving APEL as a mediating variable through SEM examination, awareness and social acceptance of APEL can be improved to reduce distortions. Proving a relationship between APEL mechanism and enrolment in ODL is a tough challenge for researchers in this domain. This is because APEL must be seen to have the capacity to contribute towards redressing inequality by opening up more ways for people to acquire enrolment and attain a qualification. On the other hand, governmental higher education policies place an emphasis on stronger links between industry and universities (Henkel, 2000). Previous study conducted by Henkel (2000) helps to shed light on the development of knowledge that can be exploited for economic benefit, bringing the concept of innovation firmly into the 21st century in education. Moreover, the literature presented in the current work will expand on previous research (Branka, 2016; Boahin, 2018; Priadi, Cahyadi, Purba, Vindri Harini, & Zuhri 2019) and work on RPL. This provides a good starting point for a discussion. This leads to the development of a conceptual framework which will be shown in the next section.

### **Underpinning Theory and Conceptual Framework**

One of the dominant theories that describe the value of experience and deepening knowledge was established by authors like Dewey (1938) and Knowles (1970). For Dewey (1938), education is a process of learning through experience. Experience is at the heart of education. The portfolio submission to enrol in OUM by means of APEL is a suitable application of Dewey's theory. Language skills and information technology skills that have been gained from work, personal experience and community services will be reorganised, reconstructed and transformed into a document. The Experiential Theory developed by Dewey (1938) and Knowles (1970) was then extended other studies (Argyris, 1982; Schon, 1987). In their view, learning that can be achieved on a daily basis through informal and non-formal ways is not confined to a classroom. It can be very unstructured. Prior knowledge was found to be strictly related to skills and knowledge of the learners (Dewey, 1938; Knowles, 1970), which can be the foundation for new knowledge. This elucidation is philosophically framed in the conceptual framework shown in Figure 1.

Secondly, this present research heeds the call from Pearson (2000) to complement their hypothetical model. The authors have tested the relationship between education competence, awareness of opportunities and persistence. In their paper, education competence was defined as the skills of reading, listening, writing, using computers, using library and database research, managing time, studying, and making oral presentations. Incidentally, the measurement is very similar to what is being used in this present study. Cox (2013) investigated to what extent demographics, prior learning experience, and performance variables predict participation in career academies, using a logistic regression analysis. In his study, Cox (2013) clearly mentions the limitations and opportunities for future research. Variables like prior learning experience must be incorporated in quantitative models to improve understanding into whether a trend exists in candidates' enrolment in academics.

According to Pearson (2000), adult students confront academic barriers and one intervention that has been increasingly accepted has been entry requirements using working experience. Flexibility in entry requirement is an important preference of adult students, quantitatively proven in the eminent study of Li (2014). Referring to an interesting elaboration in his research, flexibility of entry requirement realizes the importance of equal opportunity in democratization of higher learning. To counterpart this issue, this present work using SEM will be sufficiently unique to build upon previous work. The reason SEM is selected will be discussed in the following section. In short, the whole SEM assessment in this work was

performed based on the key concepts shown in Figure 1. In addition, five hypotheses corresponding to the conceptual model were formulated (see Table 2 below).

Table 2  
*Research Hypotheses*

No	Research Hypotheses
H1	There is an association between language skills and enrolment in ODL
H2	There is an association between information technology skills and enrolment in ODL
H3	There is an association between APEL and enrolment in ODL
H4	There is a mediating effect of APEL on the relationship between language skills and enrolment in ODL.
H5	There is a mediating effect of APEL on the relationship between information technology skills and enrolment in ODL.

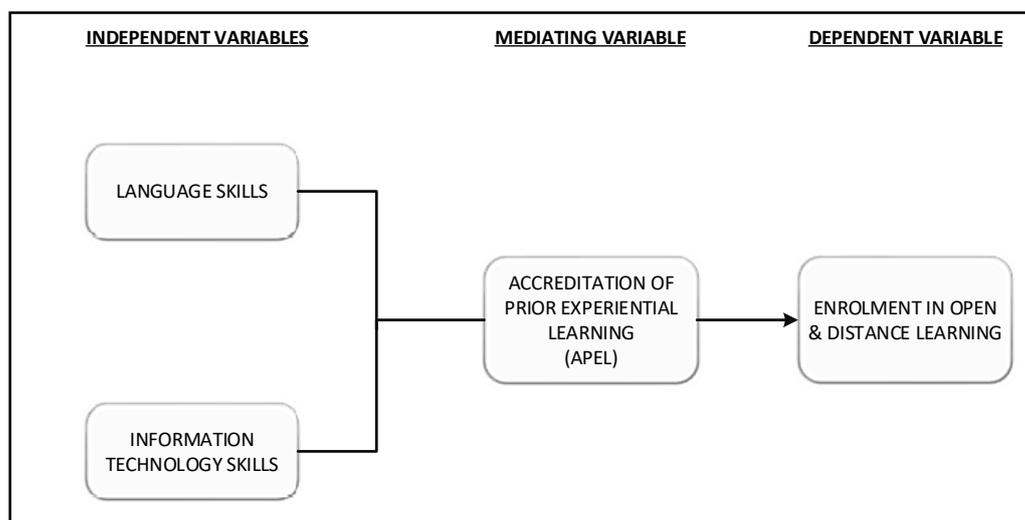


Figure 1. Conceptual Framework

## Research Methodology

This investigation employs a quantitative approach to examine the issues mentioned in the specific research objectives. The data in this effort is sufficient for an SEM analysis (Hair, Anderson, & Babin, 2010). The sample comprised 400 candidates from Malaysia who walked in to OUM's learning centres to sit for aptitude test. The respondents came with an intention to get admission using their prior experiential learning. The quality of data was enhanced by giving the respondents personalised attention. Face-to-face data collection was performed to obtain a large number of respondents. A structured survey questionnaire with a four-point Likert Scale ranging from '1' (strongly disagree) to '4' (strongly agree) was adopted. To avoid judgment error and minimise bias, the data was first subjected to descriptive, normality and reliability analysis. The indices will be reported in the next section of this paper.

Following this, the data analysis to solve the hypotheses proceeded in two stages: 1) regression analysis for H1, H2 and H3 and 2) structural equation modelling (SEM) assessment for H4 and H5. SEM is a modelling technique applied to social or behavioural systems to understand and explain phenomena that may exist among elements of systems. The combination of factor analysis and regression analysis under SEM is very useful because it is a worthwhile tool to represent multi dimensional unobservable constructs and simultaneously examine structural relationships that are not well captured by traditional research methods (Gefen, Straub, & Boudreau, 2000). Key findings emerging under SEM

can be more defensible because of its model estimation advantages. Under SEM, the paradigm guiding the data analysis will be conducted based upon principles of Mediation by Kenny and Baron (1986).

Some authors (Rucker, Preacher, Tormala, & Petty, 2011) have driven the further development of SEM by evaluating previous studies. According to Rucker et al. (2011), a total of 34% of research conducted in social psychology consists of mediation analysis whereas 65% of articles in *Personality and Social Psychology Bulletin* (PSPB) included at least one mediation test. They stressed on the contribution and high status of mediation analysis in research. Based on the fundamental concept established by pioneer methodologists (Kenny & Baron, 1986), a variable can be called a mediator. The applicability of mediation analysis was then reviewed and concurred by other methodologists like Hair et al. (2010); Little, Card, Bovaird, Preacher, and Crandall (2007). More importantly, there are certain empirical conditions for mediation that must be met. According to Kenny and Baron (1986), two tests must be conducted in the process of mediation assessment. The first test between independent variable (X) and dependent variable (Y) must be significant. The direct effect must be assessed using regression analysis with SPSS software. Once this has been realised, the second test can then be performed. In the second test, three observations must take place in the AMOS software in view of declaring a full mediation relationship:

1. There is evidence of a significant linear relationship between the independent variable (X) and the mediator (M).
2. There is evidence of a significant linear relationship between the Mediator (M) and the dependent variable (Y).
3. The relationship between the independent (X) and dependent (Y) variables diminishes when the Mediator (M) is introduced in the model.

## Data Analysis and Results

The reliability and normality of the survey instrument is critically evaluated and reported in Table 3 in this exploration. As established earlier in this paper, the experimental data measures competency in language skills and information technology skills of candidates, which is scarce in the literature. Because of this potential limitation, the analysis presented in Table 3 will complement well with previous studies (Ahmad Izanee et al., 2014; Jailani et al., 2013; Lillian, Fadzil, & Singh, 2011) conducted in the Malaysian environment. The data was tested for reliability using Cronbach's coefficient alpha estimate, indicating how well the items in a construct are positively correlated to one another. The Cronbach's alpha values for all dimensions during the data cleaning range from 0.75 to 0.90, thus supposing the constructs to be reliable (Nunnally, 1978). In the data cleaning process, kurtosis and skewness scores were taken into consideration. The normality of distribution of the items was determined using Kurtosis and skewness. Measurements and the indices for all the items were within the recommended ranges (Kurtosis < 3.00; Skewness -1 to +1) given by Lei and Lomax (2005). As displayed in Table 3, the Kurtosis and Skewness scores for all items were well within the acceptable range, attesting the data to be normally distributed. In addition, the mean analysis and also detailed items that measure each construct are presented in Table 3. While it is true that SEM and regression were used to satisfy the hypotheses, some mean analyses will also be highlighted to shed light on the Malaysian ODL environment. Comprehension (mean = 3.39) and writing (mean = 3.30) skills in the national language scored the highest mean, indicating the importance of these items. To survive in an ODL environment, superior descriptive result (mean = 3.12) was found on the use of email/Facebook/Twitter/blog. Mean analysis found in this work is consistent with the explanation given by Bandalaria (2011) about how learning communities can contribute to ensure quality of education in ODL. According to Bandalaria (2011), this could be done by students who can use networking sites like Facebook, where students 'converge' online

and discuss related issues. The descriptive analysis in Table 3 also confirms that adult students place high importance on relating theory to practice in their lives (mean = 3.32). Finally, the fact that OUM is catering to the needs of adult students is the main attraction and reason for enrolment (mean = 3.53). These are some novel descriptive findings that can be used by stakeholders when deciding to allocate resources accordingly in an ODL environment when dealing with adult students.

This part of the paper illustrates the results of statistical procedures applied to test the hypothesized model. The direct regression must be principally conducted before performing the structural equation modelling assessment. The independent variables and mediating variable are regressed directly against the dependent variable as suggested by Kenny and Baron (1986). As observed in Table 4, all the p-values are significant ( $p < 0.05$ ) and the hypotheses stated are supported.

Table 3  
*Reliability and Normality of the Research Instrument*

Code	Constructs	Descriptive		Normality		Reliability Cronbach Alpha
		Mean	Skewness	Kurtosis		
<b>Language Skills</b>						
L1	Competency level for English language (comprehension)	2.55	-0.178	-0.318	0.75	
L2	Competency level for English language (written)	2.39	0.0021	-0.363		
L3	Competency level for Bahasa Malaysia language (comprehension)	3.39	-0.531	-0.268		
L4	Competency level for Bahasa Malaysia language (written)	3.30	-0.581	-0.090		
<b>Information Technology Skills</b>						
IT1	Competency level in Microsoft Word	3.06	-0.471	-0.037	0.91	
IT2	Competency level in Microsoft Excel	2.90	-0.369	-0.367		
IT3	Competency level in Microsoft Powerpoint	2.79	-0.297	-0.618		
IT4	Competency level in information search on the internet	3.11	-0.491	-0.004		
IT5	Competency level in using email / facebook / twitter / blog	3.12	-0.496	-0.104		
<b>Accreditation of Prior Experiential Learning</b>						
A1	The programme of study is related to my work experience	3.28	-0.458	0.348	0.90	
A2	Having work experience complements my studies	3.30	-0.243	1.064		
A3	I can apply knowledge from work to my assignments	3.31	-0.131	0.522		
A4	I can put theories that I learnt into practice at work	3.32	0.180	-0.783		
A5	Having prior learning makes studying easier	3.19	0.084	0.625		
<b>Open and Distance Learning</b>						
OD1	OUM caters to the learning needs of working adults	3.53	-0.179	-1.825	0.78	
OD2	OUM's teaching and learning method is suitable for me	3.43	0.103	-1.581		

Code	Constructs	Descriptive			Normality	Reliability Cronbach Alpha	
		3	Mean	Skewness			Kurtosis
OD3	I have sufficient information about the programme of study	3.12	-0.141	0.815			
OD4	I still need to know about OUM before I enrol	3.12	0.104	1.280			
OD5	I can meet the demands of being an OUM learner	3.26	0.423	0.442			

The SEM assessment shown in Figure 2 found evidence to answer H4 and H5. The difference between previous work on APEL in Malaysia (Ahmad Izanee et al., 2014; Jailani et al., 2013; Lillian et al., 2011) and the current one, can be attributable to this assessment. Correspondingly, Table 6 is adequate to interpret the algorithms obtained from the SEM assessment to satisfy H4 and H5. In the structural equation assessment conducted, a significant relationship was found between language skills and APEL (Beta = 0.32, p = 0.001), significant relationship reported between APEL and enrolment in ODL (Beta = 0.68, p = 0.001) and insignificant relationship shown between language skills and enrolment in ODL (Beta = 0.08, p = 0.42). All the conditions for mediation are met (Hair et al., 2010; Kenny & Baron, 1986), thus H4 is supported. This is displayed in Table 5 and Table 6. A similar pattern result was observed for H5 because the analysis fulfils the conditions of mediation. To elaborate further, a significant relationship (Beta = 0.13; p = 0.003) was found between information technology skills and APEL, significant relationship reported between APEL and enrolment in ODL (Beta = 0.68, p = 0.001) and an insignificant relationship was reported between information technology skills and enrolment in ODL (Beta = 0.04, p = 0.38). In short, full mediation is reported for H4 and H5 in Table 5.

Table 4  
*Results of Direct Regression*

No	Hypotheses Statement	Actual Beta Estimates	P-value	Result
H1	There is an association between language skills and enrolment in ODL.	0.14	0.01	Supported
H2	There is an association between information technology skills and enrolment in ODL.	0.22	0.01	Supported
H3	There is an association between APEL and enrolment in ODL.	0.50	0.01	Supported

Table 5  
*Summary of Mediation Results*

No	Hypothesis Statement	Result	Type of Mediation
H4	There is a mediating effect of APEL on the relationship between language skills and enrolment in ODL.	Supported	Full mediation
H5	There is a mediating effect of APEL on the relationship between information technology skills and enrolment in ODL.	Supported	Full mediation

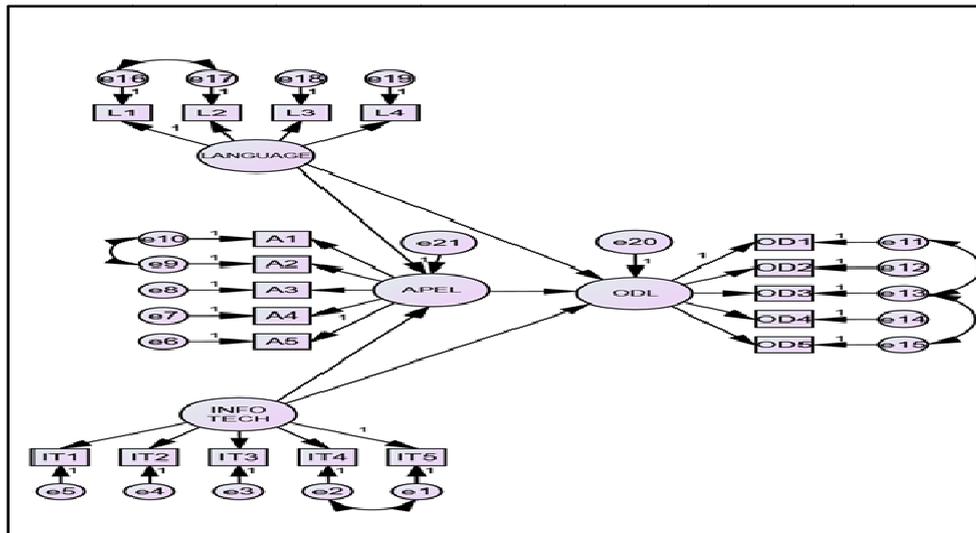


Figure 2. Structural Equation Model

Table 6  
 Indices for the Structural Equation Model

Mediating Variable	Independent Variables	Actual Beta Estimates	Standard Error	Critical Ratio	P-value
APEL	Language skills	0.322	0.099	3.238	0.001
APEL	Information technology skills	0.127	0.043	2.960	0.003
Dependent Variable	Mediating Variable	Actual Beta Estimates	Standard Error	Critical Ratio	P-value
ODL	APEL	0.679	0.074	9.142	0.001
Dependent Variable	Independent Variables	Actual Beta Estimates	Standard Error	Critical Ratio	P-value
ODL	Language skills	0.076	0.095	0.800	0.423
ODL	Information technology skills	0.042	0.048	0.881	0.379

The indices for model fit in this paper are presented in Table 7. The results of the structural equation model (RMSEA = 0.08; GFI = 0.90; AGFI = 0.86; CFI = 0.94; TLI = 0.91; NFI = 0.92; Chi Square = 3.27) are substantial and the model is found valid. At this stage of understanding, validity of the model must be addressed to ensure the research instrument is measuring what it is supposed to measure. After going through rigorous methodological procedures, it is important to examine the interplay between underpinning theory and design used. Validity must be proven in view of generalising the results (Lucas, 2003), defending it and using it. In conclusion, all statistical analyses performed in this study are in line with the recommended range given by statistical authorities as presented in Table 7.

Table 7  
*Validity of the Model*

Index	Observed Indices	Acceptable Range from Statistical Authorities
Root mean square error of approximation	0.08	RMSEA < 0.10 (Chinda & Mohamad, 2008; Hair et al., 2010)
Goodness fit index	0.90	GFI > 0.90 (Hooper et al., 2008)
Adjusted goodness fit index	0.86	AGFI > 0.80 (Byrne, 2010; Hu & Bentler, 1999)
Comparative fit index	0.94	CFI > 0.90 (Byrne, 2010; Chinda & Mohamad, 2008; Hu & Bentler, 1999)
Tucker Lewis index	0.91	TLI > 0.80 (Hooper, Coughlan, & Mullen, 2008)
Normed fit index	0.92	NFI > 0.90 (Bentler & Bonnet, 1980)
Chi Square	3.27	Chi Square's acceptable range is 2.00-5.00 (Tabachnick & Fidell, 2007; Wheaton, Muthen, Alwin, & Summers, 1977)

### Discussion and Implications

The available evidence seems to support H1, which is to establish an association between language skills and enrolment in ODL. This is probably because candidates place high importance on how to write notes, emails memos, letters and reports in English and Bahasa Malaysia. A closer look at the data indicates that OUM's teaching and learning method is suitable for the masses because the tutors can reach a larger audience. Secondly, most of the modules in OUM are prepared in English and some are prepared in Bahasa Malaysia. Students will be only able to synthesise ideas and information if they can write and comprehend well prior to enrolling in the system. The evidence shows the importance of language skills. One of the implications here is that ODL institutions must ensure to offer extra language classes to those who need support in view of enhancing student experience. The discussion is concerned with the issue of how human capital development of the nation can be improved because language skills can promote individual earnings in the long run. People must be given an opportunity to obtain a degree from ODL admission.

The direct regression analysis has resulted in supporting H2 where a conclusion can be made that there is an association between information technology skills and enrolment in ODL. Relating this result to the study of Henschke (2014), inequalities in terms of economic background and infrastructure there are unequal opportunities to access knowledge and learning resources, exclusive public services and information technology systems. Computer networks used for the transfer of knowledge do not cover all parts in some ASEAN countries. If a candidate is able to demonstrate competency in Microsoft Word, Microsoft Excel and Microsoft PowerPoint, he or she will be able to handle the learning process easily regardless of the discipline chosen. In addition, integration of technology provides a pathway to connect with tutors, learning materials and other students in view of helping them to enhance their future career. Along similar lines, candidates can find more information about their programmes, the assessment methods and course outlines once they are familiar with all the Microsoft programmes. Using information search on the internet in an ODL environment can shape a student to become a conceptual thinker and a self-starter and gain a better generation of ideas to complete assignments. Students can also collaborate and improve communication skills after joining the system if they are active in using emails, Facebook and blogs.

The results provide confirmatory support to agree with Dewey's Experiential Learning Theory and builds upon previous literature on APEL (Cox, 2013; Jailani et al., 2013; Pearson, 2000). It is recommended that the marketing department of ODL institutions identify candidates who have considerable non-formal and informal learning in information technology, recruit them and enrol them in the system. On the basis of the statistical evidence currently available to support H3, it seems to support the actions of the Malaysian Qualification Agency (MQA) in promoting APEL. As suggested by Boahin (2018), institutions need to yield materials and handbooks which clearly explain the processes and how to get started. Getting support and advice through the use of workplace mentors and on-line tutors is as important as getting access to materials in a wide range of formats, including audio, visual and web-based materials.

There seem to be a compelling reason to agree that the APEL mechanism can support people in gaining admission into universities. APEL benefits people in the following ways: 1) increasing their self-confidence; 2) enhancing their motivation to learn; 3) enabling them to get access to higher qualifications; and 4) increasing their mobility and employability as specified by MQA (2014). One good example of creating a bridge for APEL is through the Alternative Learning System (ALS), which has been established in the Philippines. This system exists parallel to the formal school system and addresses the learning needs of those who wish to acquire basic literacy skills as well as functional literacy skills recognised as equivalent to both primary and secondary levels (English, 2015). Nevertheless, Boahin (2018) stated that a lot of effort has been put into the policy initiatives of RPL in the TVET institutions in Ghana but there seems to be a lack of commitment in its implementation. APEL candidates should be given a chance to substantiate themselves because as found by Klein-Collins (2010), APEL students had better academic outcomes in terms of graduation rates as compared to non APEL adult students. At an institutional level, OUM caters to the learning needs of working adults and that is why the programme of study selected by students are related to their working experience. An aptitude test and portfolio submission is done before they can join in. From a national perspective, they will be able to enhance skills and get better career prospects in the organisation they are working in. To generalise beyond the data, productivity of the employees in the nation can then be boosted aspiring the 2020 vision.

An implication from these findings is that workshops need to be conducted to guide people on how to prepare a good portfolio, and video guides should be given to candidates to show them the steps in preparing a comprehensive portfolio. The findings also lend support to justify the establishment of an APEL resource centre in the library. Samples of aptitude tests and examples of portfolios can be placed in library shelves for candidates' viewing. The main novelty of this paper comes from the acceptance of H4 and H5. Language skills and information technology skills will aid candidates to acquire enrolment through recognition of prior learning and this is statistically demonstrated in the empirical model. The writing and comprehension skills gained through prior experience will make studying easier when they enrol to fulfil the academic demands of OUM. When the students demonstrate command of language, they will be able to apply the knowledge from work to give better answers to their assignments.

ODL organisations must ensure to communicate clear principles of APEL, match the experiential knowledge with programme offering. Secondly, the branding of APEL mechanism can also be done to create awareness and inform the public that there is always an opportunity to acquire education. This is to support Higher Education, which is organized based on the principle of a systemic unity with an open and flexible system in the learning process (Henschke, 2014). Thirdly, eliminate negative perceptions on APEL (Hargreaves, 2006; Schwartz, 2012). Nevertheless, there are sufficient numbers to justify the methodological contribution of this paper. A series of qualitative experiments can be performed by future researchers to build upon the findings of the present work. Secondly,

this study can be replicated with more data and more variables in a different environment. The differences in findings, if any, will be interesting to explore. Finally, future studies should further develop and confirm these initial findings using different analytical designs, such as Partial Least Square (PLS). Looking forward, further attempts could prove beneficial to the literature and body of knowledge.

## Conclusion

APEL in teaching and learning at OUM is intended to link theory, practical skills and the world of work, allowing students to proceed to higher levels of learning. There is a need to emphasise on the importance of information technology early in the minds of the learners. The interaction of APEL in the education system lends support to the claim that skills gained from non-formal learning can be used in a place like OUM, which caters to the needs of adult learners. This has been quantitatively proven in this paper. Four conclusions can be made from the literature, analysis and findings of this study that can be useful to other ASEAN countries in relation to APEL. Firstly, involvement of the labour market is crucial to devise competency standards so that a sense of ownership is created. Next, education and training systems can be utilised during the periods of unprecedented demands as long as basic competencies can be proven. This will facilitate in creating social justice and social development. Thirdly, latest technologies have brought about changes teaching and learning approaches that benefit adult learners who desire to acquire recognised credentials. This can be done more effectively if curriculums are developed more flexibly. Finally, similar to the practices of APEL in Malaysia, other countries can also use artefacts, email, notes, samples of work, journals, work reports and certificates as a way to attest competency and reduce the entry barriers to education.

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