

## Development of an assessment tool to measure the prior experiential learning of adult learners: The case of Wawasan Open University

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### Abstract

*Recognition of prior experiential learning offers a vital contribution to supporting lifelong learning around the globe. The Malaysian government has placed great emphasis on lifelong learning in developing a knowledge society to achieve its goal of becoming a developed nation by the year 2020. Hence, the efficacy of recognition of prior experiential learning acts as a mechanism to enhance social equity and social inclusion in the Malaysian higher education context. In tandem with this, Wawasan Open University (WOU)'s vision and mission is to enculturise lifelong learning and provide access to adult learners who may have previously missed the opportunity to pursue higher education. Since its inception in 2007, WOU has developed a mechanism to review, recognise and accord validity to all prior experiential learning (PEL) of the learners. WOU's PEL comprises a series of assessment filters in three stages that are systematically utilised to gauge the learner's level of preparedness to embark on their tertiary education. These stages are (i) Certificate Attestation and Work Experience Portfolio, (ii) Diagnostic Test and (iii) a six-month HeadStart programme.*

*This study investigated the effectiveness of the mechanism and its assessment tools in measuring prior experiential learning of the students. The authors examined the GPA/CGPA performance of two groups of learners. The first group consisted of those who have passed the diagnostic test and proceeded directly to undertake their degree studies. The second group comprised learners who were unsuccessful in their diagnostic test and had to undertake a six-month HeadStart programme prior to commencing their degree studies. The authors then conducted an analysis on the correlation between the Diagnostic Test results and the GPA/CGPA scores obtained. Similar correlation analysis was also carried out to examine whether learners who had undergone the six-month HeadStart programme performed better in their tertiary studies. Support services offered to these two groups of learners were also identified. The findings from this study also reveal the appropriateness*

*of the various components embedded in the Diagnostic Test as well as the courses offered in the six-month HeadStart programme that aimed to strengthen the learners' knowledge, skills and attitudes prior to pursuing their tertiary studies.*

*Open Universities that subscribe to the philosophy of broadening access to higher education may explore the possibility of adopting the tested bridging programme developed by WOU for weaker Open Entry students to enhance the success rate of students and reduce attrition rate.*

## **Introduction**

As people increasingly undertake course and study at differing stages of their lives they acquire skills and competences across a variety of areas. Some of this learning may be certified by an academic or educational institution, while other may be uncertified learning gained through work, community or leisure time activities (Wynne, 2012). From the academic's perspectives, recognition of prior experiential learning (RPEL) is a process which acknowledges and accords value to formal and informal learning achieved prior to registering for a particular programme of study at an education institution that supports lifelong learning. This will enable people of all ages, backgrounds and attitudes to receive formal recognition for skills and knowledge they already possessed (Simosko, 1991).

RPEL allows students (NUI, 2012):

- to gain entry and admission to tertiary education programmes;
- to obtain credit exemptions to accelerate their completion of study;
- to transfer from one programme of study to another be it in a similar institution or across institutions.

RPEL provides an opportunity for a learner to pursue tertiary studies who may have limited structured formal education or who may not even have any formal education but have gathered their knowledge and skills through experiential learning in employment, training or personal activities etc. Learners may also have undergone formal learning through short courses that they have registered in the course of their lives and received certification for it.

In a more global perspective, RPEL is done (NQF, 2012):

- to redress the historical disadvantages like exclusion of certain segment of people from education and training because of regulations used by conventional educational institutions;
- to validate people's skills and knowledge;

- to facilitate access to jobs and progression in career paths;
- to promote employment equity.

This philosophy of open learning enables, empowers and facilitates adults to undertake or return to education on the basis of their prior learning, training and life experiences. In the light of enculturation of lifelong learning and the mandate bestowed upon Wawasan Open University (WOU) and five other higher educational institutions in Malaysia by the Ministry of Higher Education (MOHE) to implement the Open Entry System (OES), WOU has been recruiting students for its undergraduate and postgraduate programmes through RPEL.

The OES enables mature students ( $\geq 21$  for undergraduates and  $\geq 35$  for post-graduates) with minimal academic qualifications to be admitted provided they meet other conditions stipulated by the MOHE. This makes WOU programmes more accessible compared to conventional universities where students admitted for their undergraduate degree must possess a minimum qualification of STPM or A-Level equivalent (Year 12).

This paper highlights the various assessment instruments used by WOU to measure the prior experiential learning of students in determining their eligibility and preparedness to undertake tertiary studies. This paper also discusses the ability of these RPEL tools in identifying and segregating Open Entry learners who need to acquire certain basic skills and knowledge prior to commencement of their undergraduate studies. This will eventually reduce the attrition rate of Open Entry students. Hence this paper will be beneficial for institutions that are broadening access to higher education using RPEL as well learners who desires to capitalise on the benefits of RPEL.

## **Background of Wawasan Open University (WOU)**

The vision of Wawasan Open University (WOU) is to be a vibrant community that inspires lifelong learning, supports innovation and nurtures all-round personal growth. This vision is clearly reflected in its mission statement which declares that the university is committed to the expansion of opportunities in higher education and to teaching excellence aimed at increasing the level of knowledge and scholarship among all Malaysians. Owned by the Wawasan Education Foundation, WOU offers accessible, flexible and affordable education to the adult community in support of lifelong learning. At WOU, quality underpins and undergirds everything it does. WOU benchmark its academic programmes, courses, course materials and the entire learning process to produce well-rounded, knowledgeable, competent professionals against international best practices.

A distinctive characteristic of the ODL system is its learner-centric form as against a teacher-centric form of education used in a conventional university. Over 10,000 people in Malaysia, ranging in age between 21 and 71 years, have experienced the learning opportunities at WOU with majority of them falling within the 21 – 30 age group.

WOU opened its doors to students in January 2007 with 11 undergraduate programmes while the first postgraduate programme was offered in the January 2008 semester. The semester system in WOU consists of two semesters, i.e., January to June, and July to December. Currently, 44 programmes are being offered by the four schools of the university — the School of Business and Administration, School of Science and Technology, School of Foundation and Liberal Studies, and the School of Education, Languages and Communications.

Since its establishment in 2006, the university has expanded in keeping with its goal of reaching working adults across the nation. There are now six regional centres — in Penang, Ipoh, Kuala Lumpur, Johor Bahru, Kota Bharu, and Kuching and three regional support offices in Petaling Jaya, Klang and Subang — to offer learning support and services to the students.

## **WOU recognition of prior experiential learning (RPEL) process**

In an effort to render tertiary education more accessible to a greater number of people, the Malaysian Ministry of Higher Education has implemented the Open Entry Policy. Under this policy, mature learners who are enthusiastic to pursue undergraduate studies must be at least 21 years of age as well as possess a minimum of PMR (Year 9) qualification and will be subjected to an assessment of prior learning experience to assess his or her academic ability, interest and suitability for tertiary level studies.

In a university context, difficulties exist in determining the appropriateness and extent of experiential learning (Taylor & Clemans, 2000). It has to be admitted that assessment of prior learning of working adults is an exercise that is time consuming and labour intensive for both the applicant and the educational institution (Fox, 2005). The exercise also involves considerable subjective and judgemental elements. In this context, WOU has instituted various filters and practical instruments to measure the prior learning of candidates before acceptance and admission to a programme of study.

In WOU, generally, candidates will be assessed initially through the documentary evidence submitted for certificate attestation (CA) against the Register of Qualifications that WOU has developed. Subsequently, an assessment of the work experience (WE) portfolio will be conducted through an interview session by well-trained academic personnel. The use of portfolio as an appropriate response tool had been considered as an instrument to measure prior learning by various universities (Conrad, 2008). If the candidate successfully completes this stage, he or she would then be admitted directly to an undergraduate programme of study. This CA + WE stage process can be completed within a day subject to the availability of the academic personnel and the candidate concern. Unsuccessful candidates would then be required to undertake a proctored Diagnostic Test. The arrangement and conduct of this proctored test will be carried out on a weekly basis during the weekends. If the candidate passes the Diagnostic Test, he or she would then be admitted to the undergraduate programme. Otherwise the candidate would need to undertake the six-month intensive HeadStart programme. The entire process flow of WOU RPEL mechanism is simplified in **Figure 1**.

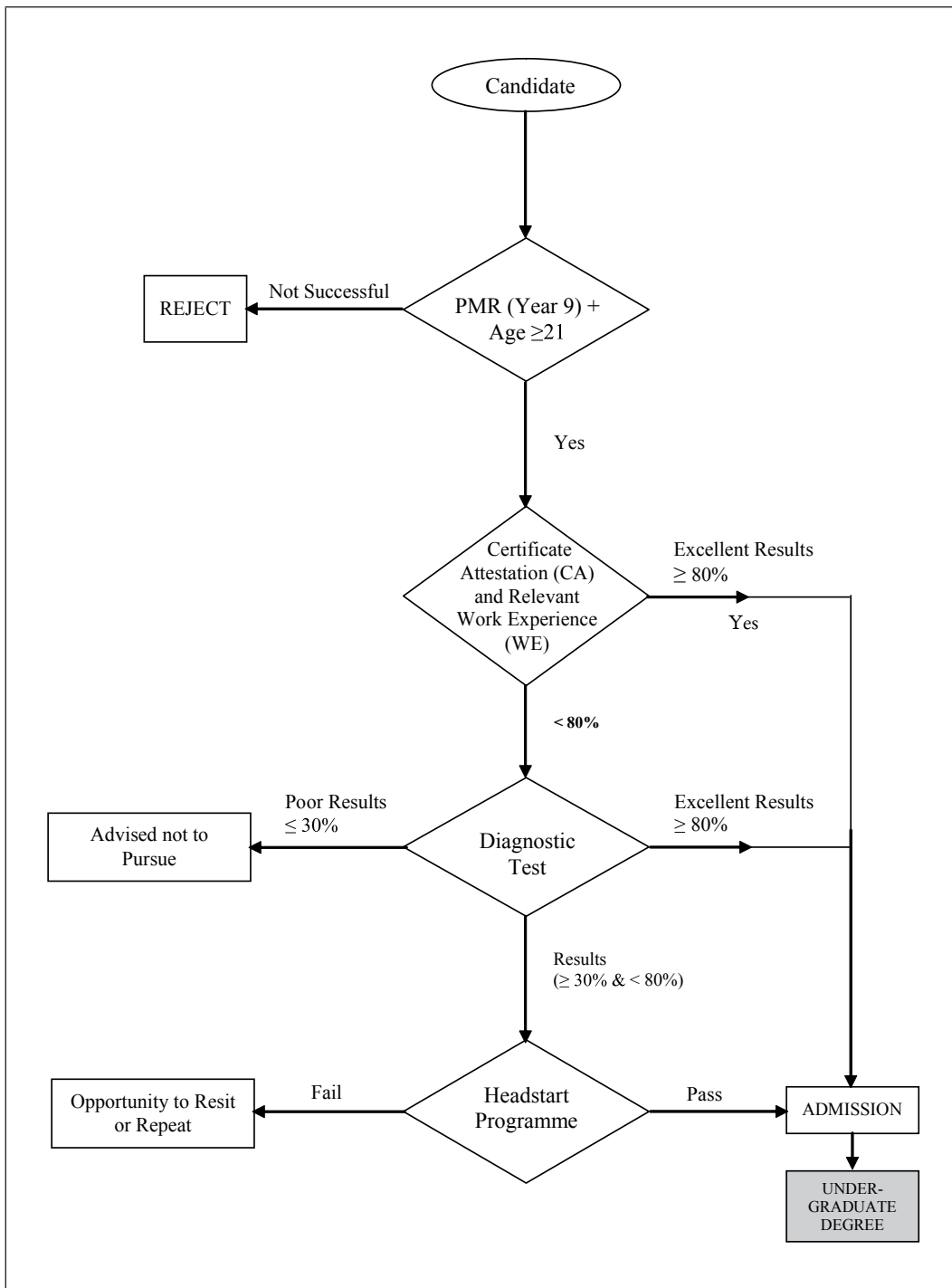


Figure 1 WOU RPEL process flow

The following sections provide greater details of the various stages and assessment methods embedded in WOU RPEL process:

## **Certificate Attestation (CA) and Work Experience (WE) Assessments**

For admissions to the degree programmes at WOU through the Open Entry System would require applicants to express, reveal or demonstrate evidences of prior certified and experiential learning to fulfil the minimum entry requirements needed to pursue tertiary studies at this level.

The evaluation criteria for CA and WE are as listed in the following table:

<b>Criteria</b>	<b>Score</b>	<b>Weightage (%)</b>	<b>Weighted Score</b>
CA		60	
Interviews WE: Critical Cross Field Skills		20	
Interviews WE: Basic Academic Competencies		15	
Observation		5	
Total weighted score		100	

Applicants who achieve a total weighted score of 80% and above will be eligible for admission. Applicants who record a total weighted score of below 80% will be required to undergo further RPEL assessment via the Diagnostic Test.

## **Diagnostic test**

The purpose of the diagnostic test, as part of the RPEL assessment is to gauge the literacy, numeracy and scholastic aptitude of the candidate. Hence, the structure of the Diagnostic Test is designed according to the content as shown in the following table:

<b>Components</b>	<b>Content</b>
Numeracy	Basic numeracy/basic algebra/coordinates and graphs/problem solving
English language	Reading and comprehension/grammar and tenses/spelling vocabulary/error correction
Malay language	Grammar and tenses/spelling/vocabulary/error correction
Scholastic Aptitude	Logic reasoning/spatial and visual skills Pattern recognition/classification skills

This is a proctored test conducted over a period of two hours with 20 multiple choice questions for each section of the four components. If the candidates obtained the following results:

- $\geq 80\%$ , the candidate will be eligible for admission into the degree programme.
- $< 80\%$ , the candidate would be required to undergo the mandatory six-month intensive HeadStart programme.

### **HeadStart programme**

Under this six-month intensive programme, WOU has developed a set of preparatory courses consisting of four courses of two credit units each. The said courses are English Language, Malay Language, Mathematics and Study Skills.

The primary objectives of this HeadStart programme are to:

- Bridge the gap between the applicant's current level of academic standing and his desired minimum expectations.
- Prepare the candidate for distance learning and instilling the appropriate attitude for independent learning.
- Prepare the candidate for acquiring the necessary learning and study skills.
- Prepare the candidate with the sufficient level of proficiency in written and spoken English and Malay Language.
- Prepare the candidate with basic mathematical skills for university studies.

Candidates must attend 20 weekly face-to-face lectures/tutorials of 1.5 hours for each course and fulfil at least 80% attendance rate to be eligible to undertake the final exam. The assessment comprises the continuous assessment component of 60% (i.e., 2 assignments, 5 exercises and 1 mid-term test) and the final exam component of 40%.

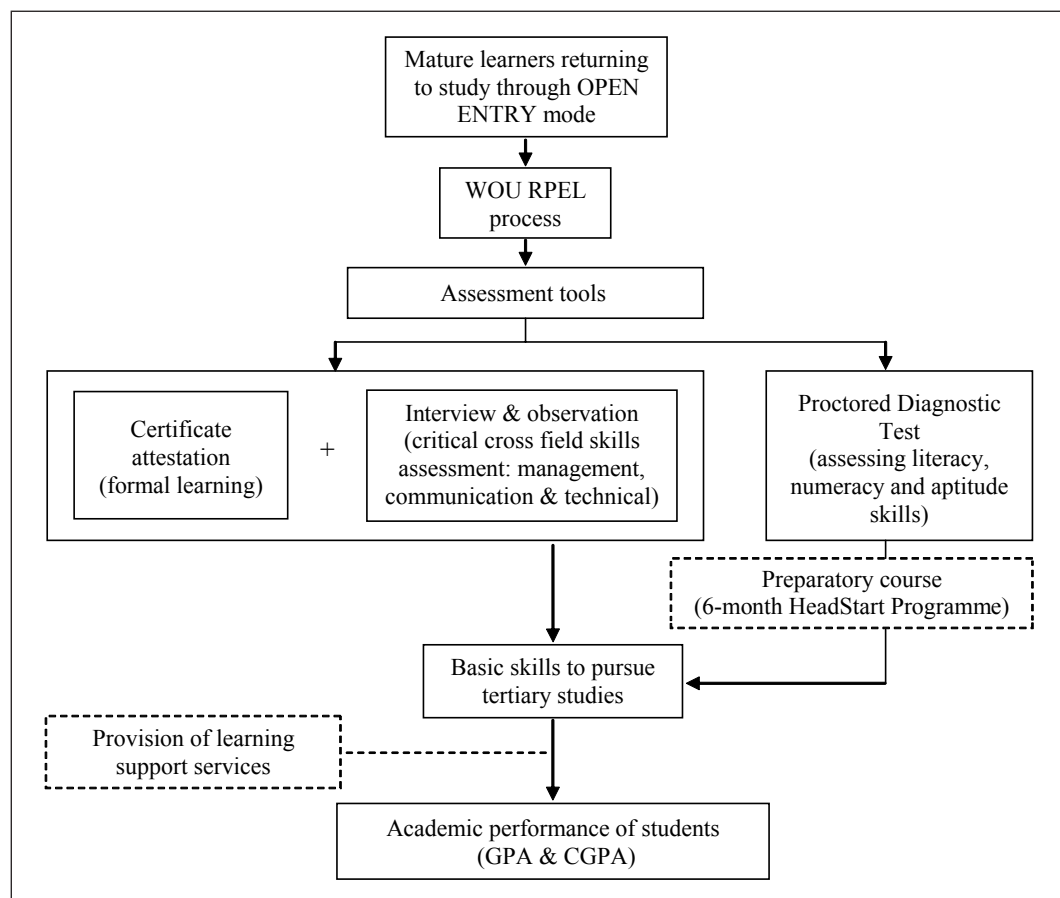
To be considered for admission into the undergraduate degree programmes, the candidate must pass all the four courses of the HeadStart Programme.

## Research framework and methodology

The primary objectives of this study are to investigate:

1. The effectiveness of WOU RPEL mechanism and its assessment tools in measuring the prior experiential learning of the students for admission into the undergraduate programmes.
2. The effectiveness of a six-month HeadStart programme in preparing the weaker RPEL students to undertake tertiary studies.
3. The academic performance of Open Entry students against those who had been admitted through the Regular Entry mode.
4. The effectiveness of the various components in the Diagnostic Test/HeadStart programme.

**Figure 2** shows the conceptual framework of this case study.



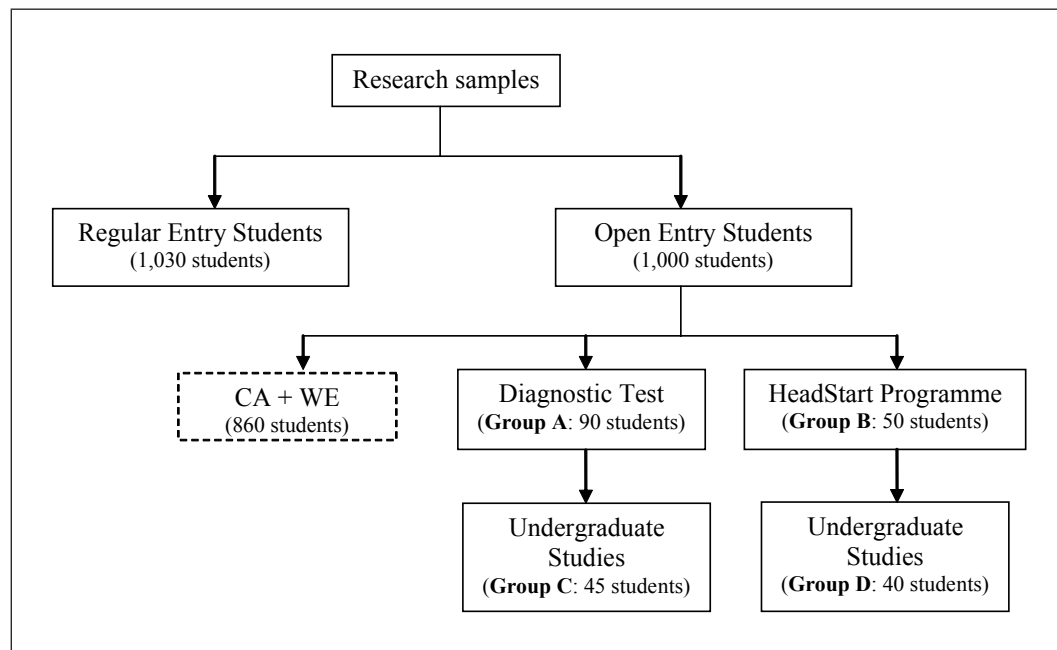
**Figure 2** Conceptual framework of the case study

In this study, the authors analysed the academic performance of undergraduate students by examining their Grade Point Average (GPA) and Cumulative Grade Point Average obtained during their semester of studies. Students performance such as grades and test scores had been identified as one of the measures to determine the effectiveness of distance education (Merisotis & Phipps, 1999). Grade point average (GPA) has long been regarded as a numerical criteria of academic performance (Sadler, 2009).

To investigate the effectiveness of the WOU RPEL assessment tools such as the proctored Diagnostic Test or the six-month HeadStart programme, the authors examined the correlation of these scores against the GPA/CGPA obtained (Weiss, 1994). An independent sample T-Test was also used to analyse the result of this study.

## Research samples

The samples constituted students from six various intakes with age ranging from 21 to 65 years. These samples represented diverse socioeconomic groups who were geographically distributed across Malaysia and homogenous in nationality. Students in these samples were admitted into the undergraduate studies either through the Open Entry or Regular Entry mode. Open Entry students were those who had completed Year 10 or O-Level equivalent while Regular Entry students comprised those who had completed at least Year 12 or A-Level equivalent. The various samples used in this study are diagrammatically represented in **Figure 3**.



**Figure 3** The various samples used in this research

In **Figure 3**, Group A consisted of 90 students who had obtained at least 80% of marks in their Diagnostic Test and admitted directly to pursue their undergraduate programmes. Group B on the other hand comprised 50 students who had obtained more than 30% and less than 80% of marks in their Diagnostic Test and had successfully completed the six-month intensive HeadStart programme before they were allowed to commence their undergraduate studies.

Group C students consisted of 45 students who were drawn from the pool of Open Entry students who had gained admission through the Diagnostic Test route and obtained a CGPA within the range of 2.67 to 4.00 in their second semester of studies. Group D were students who had successfully completed the HeadStart programme prior to admission into the undergraduate programmes and had achieved a CGPA between the 2.67 to 4.00 in their second semester of studies.

### **Performance of students who were assessed through Diagnostic Test or HeadStart Programme**

In this study, the academic performance of Group A and Group B students were monitored for two consecutive semesters in their initial years of their undergraduate studies by observing the achievements of their GPA and CGPA scores.

### **Performance of Open Entry students against the Regular Entry students**

A further comparison study was also undertaken to examine the performance of Open Entry students who had gained admission either through the CA + WE, Diagnostic Test or HeadStart programme against Regular Entry students. Students from these two main streams were provided with similar learning support services throughout their duration of studies. The GPA and CGPA achieved by these Open Entry and Regular Entry students were monitored for six semesters.

### **Effectiveness of the various components/courses embedded in the Diagnostic Test/ HeadStart Programme**

The authors also conducted an analysis on the scores achieved by Group C students in the four respective components embedded in the Diagnostic Test i.e., English Language, Malay Language, Numeracy and Aptitude Skills.

Similar investigation was also conducted to examine the effectiveness of the four courses offered under the six-month HeadStart programme i.e. English Language, Malay Language, Mathematics and Study Skills in preparing RPEL students to undertake tertiary studies. Group D is the sample for this study.

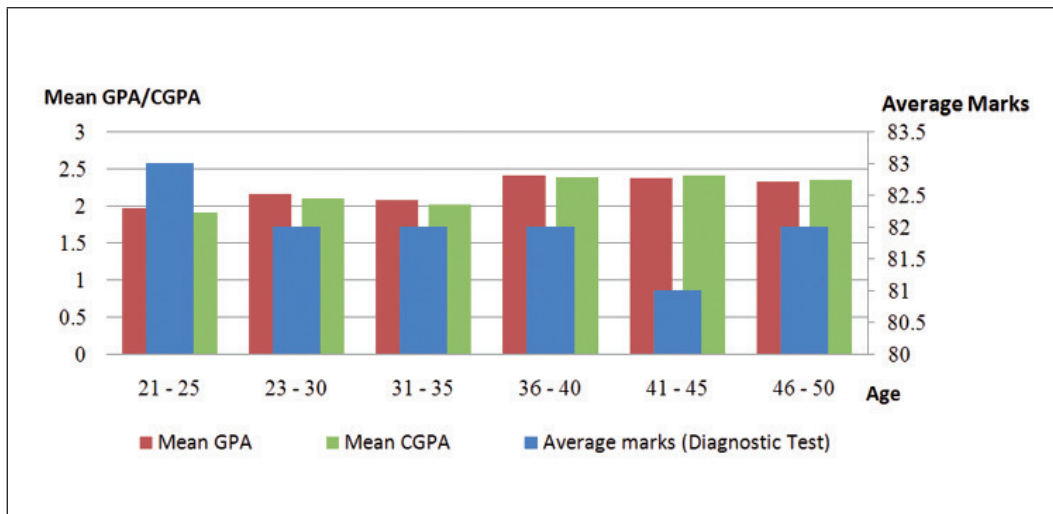
## Findings and discussion

### Performance of students who were assessed through Diagnostic Test or HeadStart Programme

It was noted that the GPA and CGPA for both Group A and B were found to be significantly correlated. Generally Group B students performed much better as it was reflected in the much higher scores of GPA and CGPA. Group B (CGPA of 2.00 – 2.82) did relatively well compared to Group A (CGPA 1.90 – 2.38) as these were the batch of Open Entry students who were equipped with the fundamental knowledge of English Language, Malay Language, Mathematics and Study Skills through the six-month intensive HeadStart programme prior to commencing their undergraduate studies. These courses have prepared the matured students who had minimal formal education and had left schools for a number of years and now returning to pursue tertiary education. Throughout the six-month period, the courses had instilled the appropriate attitude for independent-learning as well as help the students in acquiring the basic study skills techniques.

The Diagnostic Test results for Group A and B were significantly different where the average marks of Group A (83%) was much higher than Group B (60%). This clearly indicates that the Diagnostic Test serves as an instrument to differentiate between candidates who are prepared to immediately commence their undergraduate studies and candidates who need grooming through the six-month intensive HeadStart programme before they embark on the academic life of a distance learner.

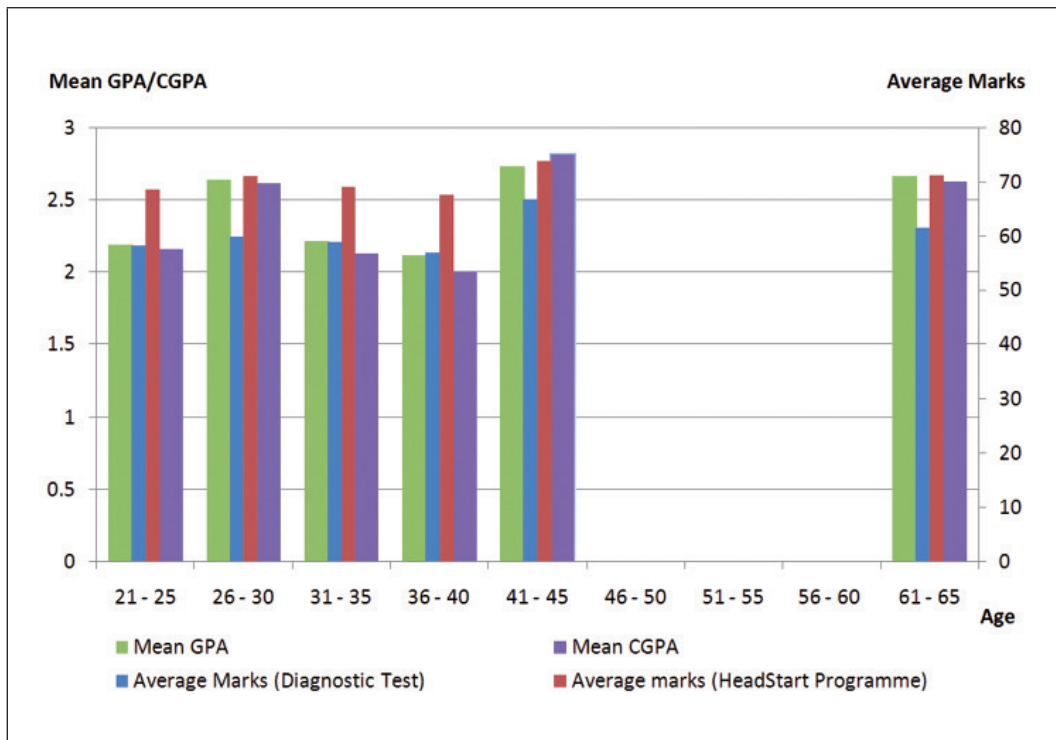
As previously indicated by Liew and Teoh (2008), age factor does not have any significant effect on the GPA/CGPA of students. This was reasoned in this study where the age of 90, students in Group A was found to have no significant effect on either the GPA or CGPA scores. **Figure 4** graphically represents the distribution of the mean GPA/CGPA obtained by these 90 students whose age has been dispersed into five categories of age group. From **Figure 4**, it indicates that the mean GPA/CGPA hovers around the score of 1.9 to 2.4. The Diagnostic Test scores that they had previously obtained and was used as the entry criteria did not correlate with neither the GPA nor the CGPA. Thus, the Diagnostic Test employed here is an instrument to measure their eligibility for entry into a programme of study and not to gauge their level of intelligence or skills when pursuing their undergraduate studies.



**Figure 4** Performance of Group A students who passed the Diagnostic Test and admitted to the undergraduate programmes ( $p < 0.05$ )

In Group B, the Diagnostic Test results did not correlate with the HeadStart programme results. As previously mentioned, Group B are a group of 50 students who did not perform well in the Diagnostic Test with scores ranging from 57% to 67%. However, this group was able to successfully complete the Headstart programme. The learning support services provided such as tutorials, peer group learning, academic counseling, course materials and continuous assessment that monitor and pace their studies have bridged the gap between the student's current level of academic standing and the desired minimum expectations of the programme. The mean score of the HeadStart programme results for the 50 students were in the range of 67% to 74%. Passing marks for each course in HeadStart programme is pegged at 50%.

Similar observation was also noted where the age of Group B students who pursued their undergraduate degree did not have any effect on GPA or the CGPA scores. **Figure 5** illustrated the distribution of the mean GPA/CGPA obtained by these 50 students whose age was divided into five categories of age group. The GPA/CGPA obtained by students in their first two semesters of studies correlated significantly with the HeadStart programme results. This implied that the six-month intensive HeadStart programme had inculcated the basic skills required to pursue tertiary studies. Further analysis has indicated that there is no correlation between the Diagnostic Test results of Group B students and the GPA/CGPA obtained by them. This again supported the notion that Diagnostic Test used serves only as an instrument to determine the entry criteria.



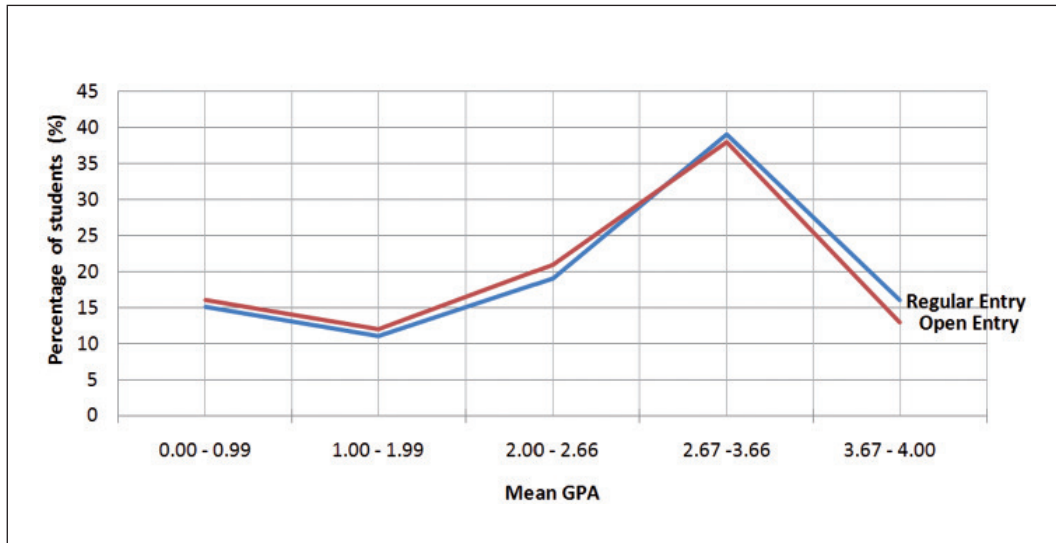
**Figure 5** Performance of Group B students who successfully completed the HeadStart programme before progressing into the undergraduate programmes ( $p < 0.01$ )

### Performance of Open Entry students against the Regular Entry students

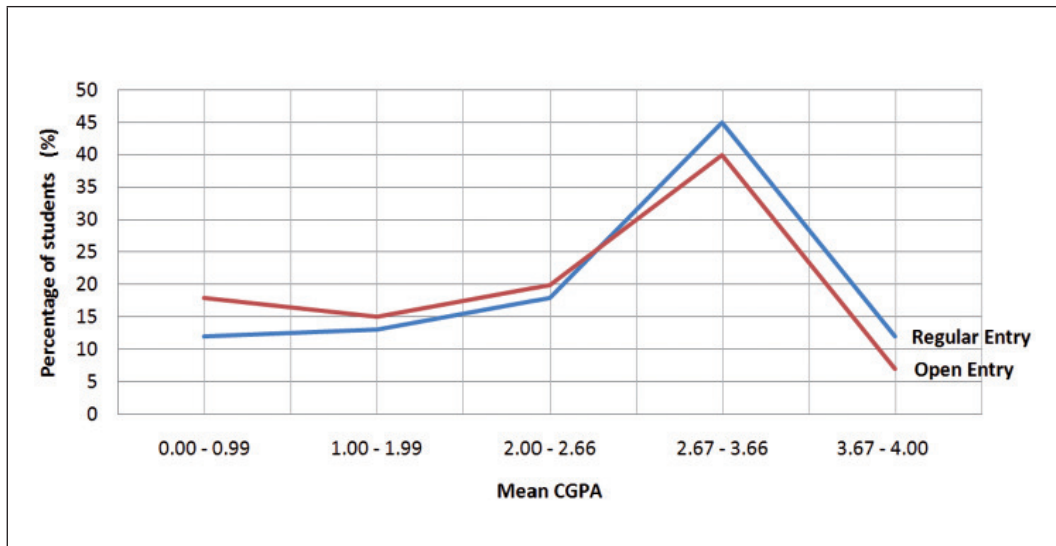
The academic performance of Open Entry and Regular Entry students did not show any significant difference. Both categories of these students seem to exhibit similar trend in the attainment of their GPA and CGPA (**Figure 6** and **Figure 7**). This advocates that people of all ages, backgrounds and attitudes must be given access to higher education and recognizing that learning is continuous where it can take place at work, home as well as in the classroom. As long as the appropriate learning support services are provided, even students with minimal formal education but with vast life and work experience can excel in their studies.

It is also noted that almost 70% of the student population in this study achieved a GPA/CGPA above 2.00. In WOU, one of the graduation requirements for student pursuing an undergraduate programme is to obtain a CGPA of at least 2.00. If this trend is persistent throughout the duration of studies, this would imply that at least 70% of the students would graduate. From the 70% of this population, majority of them (about 40%) had obtained a GPA/CGPA within the range of 2.67 to 3.66. Regardless of the entry mode of the students, approximately 10% of them are in the distinction category (CGPA of 3.67–4.00).

Another interesting feature of **Figure 6** and **Figure 7** is the percentage of the students who have achieved a CGPA of less than 2.00 is found to be approximately 25%. Students who are in this category of CGPA (0.00–2.00) may be those who are most likely to remain dormant in the system or choose to terminate their studies after a few semesters of studies thus contributing to the fairly attrition rate that pervades across all open distance learning institutions.



**Figure 6** Mean GPA performance of Open Entry and Regular Entry students ( $p < 0.05$ )

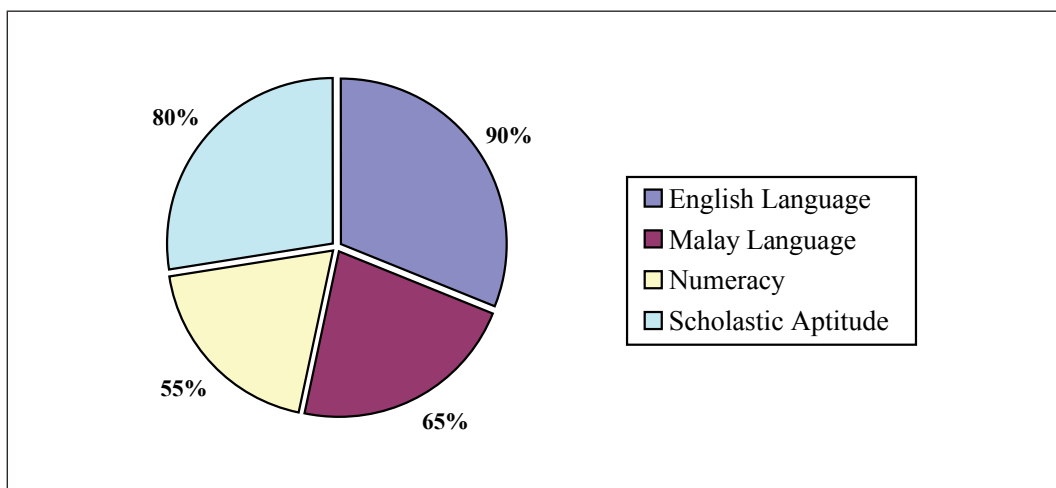


**Figure 7** Mean CGPA performance of Open Entry and Regular Entry students ( $p < 0.05$ )

### Effectiveness of the various components/courses embedded in the Diagnostic Test/ HeadStart Programme

From the analysis of the 45 Open Entry students who had gained admission through the Diagnostic Test route and obtained a CGPA between the range of 2.67 to 4.00 in their second semester of studies, it was discovered that they did relatively well in two particular components of the Diagnostic Test i.e., the English Language and Scholastic Aptitude (**Figure 8**). They were able to correctly answer 90% of the questions in the English Language component and 80% for the Scholastic Aptitude. This may suggest that there is a strong relationship between English language proficiency and the academic achievement of students particularly when the medium of instructions is in English. Having a good command of the English language would help the students to grasp and understand fully the content as well as concepts of the courses conducted. Ataollah and Ebrahim (2007) discovered significant correlation between English language proficiency and grade point averages that was used as an indicator of academic achievement of students. Wicks (1996) also found that English language proficiency affected the academic performance of students.

The Scholastic Aptitude component that is embedded in the Diagnostic Test can also be used to predict the competitiveness and likelihood of a student to succeed in a course at the point of admission. Workshop or short courses on critical thinking skills for academic success can be offered to students who have been identified to perform poorly in the Scholastic Aptitude component of the Diagnostic Test.

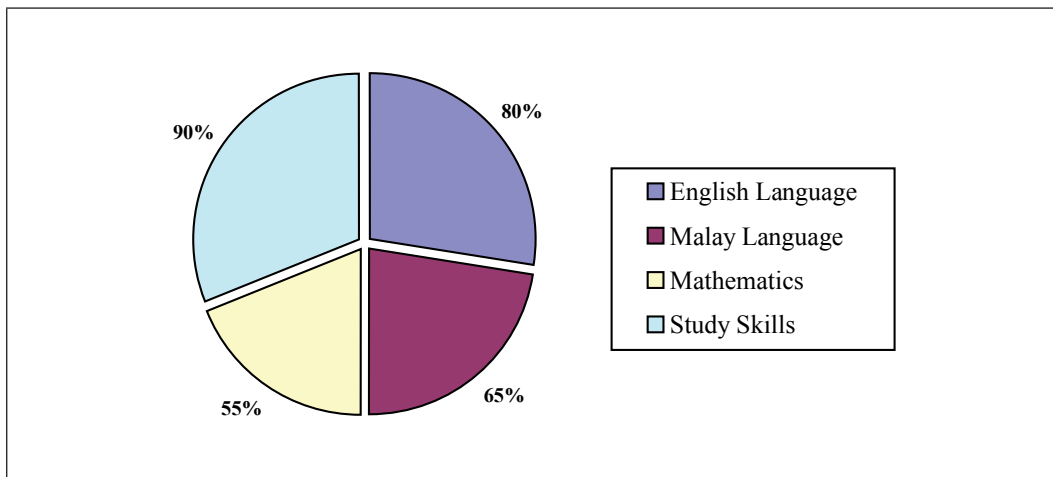


**Figure 8** Performance of students in each component of the Diagnostic Test

HeadStart programme students who had achieved a CGPA between the range of 2.67 to 4.00 in their second semester of studies, performed excellently well in two out of the four courses offered under the HeadStart programme that they had previously undertaken (**Figure 9**). This batch of students had obtained a mean of 80% of marks for the English Language course and

90% of marks for the Study Skills course. This again echoed the fact that there is a possible high correlation between the command of English language and the performance of students where the programmes of study are conducted in English.

This result also implies that RPEL students who did well in the Study Skills course performed better academically during their undergraduate studies. Griffin et al (2012) in his recent study had indicated that study skills correlated positively with the GPA performance of students.



**Figure 9** Performance of students in each course offered under the HeadStart programme

## Conclusion

The primary aim of this study is to evaluate the effectiveness, suitability and appropriateness of the assessment tools developed by WOU to measure the prior experiential learning of students who wish to join the university through the Open Entry mode. One of the instruments developed was the Diagnostic Test which is able to assess the prior learning of students. The result of this study clearly indicated that the Diagnostic Test, if developed through a rigorous process, is capable to segregate two distinct group of students where one requires to be equipped with additional input of knowledge and skills through a bridging programme (HeadStart programme) while the other group can immediately commence their undergraduate studies upon achieving a certain level of competency in the Diagnostic Test.

This study also highlighted the importance of a bridging course (HeadStart programme) in minimising the gap between the students joining the university through Open Entry and Regular Entry route. Therefore open universities that recognise the provision of open access in recruiting students through Open Entry mode should develop a bridging programme (HeadStart programme) to narrow the entry behaviour gap of the diverse group of students. In the bridging programme, courses such as English language and Study Skills play a vital role in preparing the students to successfully undertake tertiary studies. English language teaching must be enhanced to increase the language proficiency of the Open Entry students,

particularly when the medium of instructions is in English. Study skills that focus on areas like attitude, information processing skill, motivation, study techniques, time management, and effective test-taking strategies will lay the foundation and motivate RPEL students who have not been in touched with the education world for a while.

Another interesting conclusion which can be derived from this study is about the best probable components (English Language and Aptitude Skills) in a Diagnostic Test that could serve as predictor of performance in their studies.

With the introduction of the evaluation tools such as Certificate Attestation and assessment of work experience portfolio followed by a proctored Diagnostic Test and finally offering a bridging course (HeadStart programme) for those students who perform below the expected level will enhance the success rate of students. This will subsequently reduce the dropout rate and minimising the academic frustration of students during their undergraduate studies. Any open university which recognises and uphold the Open Entry policy should explore the possibility of using the system which was tested, adopted and found to be successful in Wawasan Open University.

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