

# **Learner Demography and Perception & Attitude Towards the Use of English as a Medium of Instruction in Predicting Academic Achievement**

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## **Abstract**

*This paper examines the association between some selected demographic factors, attitude towards English language and academic performance among learners in an Open and Distance Learning institution. The multiple logistic regression was used to model the relationship while the ROC curve was constructed to assess the sensitivity and specificity of the predictive model. This is a cross sectional study using self-administered questionnaire survey method to collect the data. A total of 761 learners in various degree programmes at OUM took part in this study. Academic performance was compared with learners gender, age, race, entry type, and the perception & attitude towards English language (which was measured as Perceived Competency, perceived ability, attitude towards English, Instrumental motivation, and Intrinsic Motivation).*

*Among the significant predictors of academic performance are age, race, as well as all dimensions of perception and attitude towards the use of English language. Learners in the age category above 50 shows higher probability of getting CGPA 3.00 and above, similarly the Chinese learners have higher probability getting CGPA of 3.00 and above. On the other hand, gender and mode of entry does not have any significant association with academic performance. Learners with favorable perception and attitude towards the use of English as the medium of instruction tend to do better academically. The statistical model predicting these relationships has a sensitivity rate of 70% and 70% specific.*

## **Background**

The relationship between academic achievement and various predictors such as learner demography, attitude, and perception regarding learning among adult distance education learners has received considerable attention. Research in this area has largely been propelled by the need to develop a theoretical understanding of learner success in adult distance education (Chen, Jang & Branch, 2010). There are studies that had shown that demographic factors such as age, gender, ethnicity, socio economy as well other soft measures like attitude towards the learning environment and motivation are associated with academic performance (Wigfield, & Eccles, 2000; Shih & Gamon, 2001). A number of studies have also shown that learners' academic difficulties are related to their attitudes toward education, in general, and toward high academic achievement, in particular (Ogbu & Simmons, 1998). Whilst nothing much can be done on the demographic factors, educators can certainly play a role in modifying other factors such as learners' attitude and motivation in enhancing their academic performance. As such, identifying the *specific components* of the soft factors like attitude and motivation of learners towards learning, might be the best way to begin improving the educational system. Thus, this paper aims to investigate the relationship involving selected demographic factors (gender, ethnicity, age, and entry mode), attitude towards the use of English as the medium of instruction, motivation towards learning, and academic performance of learners in an ODL institution.

Even though attitude and motivation are two distinct constructs, there is a close relationship between these two. According to Rosenberg's cognitive consistency theory people's attitudes and beliefs tend to be consistent with each other, and if the two are not consistent, people will be motivated to change either their beliefs or their attitudes. Learners' belief in turn affects motivation. Social cognitive theory of human behavior finds that motivation is regulated through the ongoing use of self-influence. This mechanism comprised of three parts: (1) self-monitoring one's behavior; (2) self-assessment of one's behavior; and (3) self-efficacy which impacts thought, affect, motivation, and action (Bandura, 1991) which encompass or relate directly to one's attitude.

## **Objective of Study**

The objective of this study was to investigate the predictive relationship between learners' demography, attitude towards the use of English as medium of instruction and motivation and learners' achievement in an ODL environment. Despite its importance in the general education curriculum, relatively few studies have examined factors that can predict learner achievement especially in the open and distance learning environment. This study was designed to investigate the joint contributions of demography, learner attitude, and motivation toward their academic performance.

## **Methodology**

The study employed Chi-Square statistics and t-test to test the association between learners' academic performance, their demographic profile, and their perception and attitude towards the use of English language as the medium of instruction. Additionally a logistic regression analysis was used to predict the factors contributing to learners' academic performance. The predictor variables assessed for association

with academic performance were gender, age, race, entry mode, and their perception and attitude towards the use of English language as the medium of instruction.

### Demographic Profile of Sample

The sample for this study comprised 761 learners from 13 states enrolled in the OUM programmes in the year 2009. Of these, 255 learners (34.2%) had obtained a CGPA of 3.00 and above, which is the cut-off point used in the study. There were more female learners (56.3%) than male learners (43.7%) in the sample. In terms of age, those categorised under 36-45 years (37.2%) formed the largest group. Those aged above 50 (10.6%) formed the smallest group.

The respondents were from thirteen states, spanning from Kedah in the north of Peninsular Malaysia to Sabah and Sarawak in the Eastern Region. The highest percentage of learners in the sample hailed from Sabah (14.1%), followed by Pahang (13.7%) and Selangor (13.3%). The rest of the states recorded less than 10% learner samples. In terms of entry to the programme, 43.8% came in using the normal entry while 56.2% were from the flexi entry mode.

### Results

The demographic profile of the learners is summarised in Table 1. The association between demographic factors and academic performance is shown in Table 2. The results show that gender does not have any significant association with academic performance. The percentage of learners with a CGPA of 3.00 and above among female and male learners are approximately 30%. Both for the male female learners the percentage achieving CGPA below 3.00 is higher.

**Table 1:** Demographic Profile of Respondents

		n	%			n	%
Gender	Male	328	43.7	Entry Mode	Flexi	412	56.2
	Female	422	56.3		Normal	321	43.8
Age	20 - 30	283	37.2	Race	Malay	449	60.9
	31 - 40	256	33.6		Chinese	117	15.9
	41 - 50	141	18.5		Indian	87	11.8
	Above 50	81	10.6		Other Bumi	73	9.9
					Others	11	1.5

As for the age category, a significantly higher percentage of learners ( $p = 0.003$ ) from all the age groups except those above 50 years obtained CGPA less than 3.00 where as for the senior learners (age 50 and

above) there is no significant difference in the percentage who did well academically compared to those who did not do well. Learners from the age category 20 – 35 years registered the lowest percentage for obtaining CGPA 3.00 and above (Table 2).

With regard to race, a greater percentage of Chinese learners obtained CGPA of 3.00 and above, followed by the Indians and Malays. The lowest percentage for CGPA 3.00 and above was recorded for East Malaysian Bumiputra learners (Table 2). Whilst the mode of entry (either Normal or Flexi) does not have any bearing on the CGPA.

**Table 2:** Association between Academic Performance and Demographic Factors

		CGPA Category		
		Less than 3.00 n = 491 (65.8%)	3.00 and above n = 255 (34.2%)	
Gender	Male	219 (68.4%)	101 (31.6%)	$\chi^2 = 1.985$ (p = 0.159)
	Female	264(63.5%)	152 (36.5%)	
Age Category	20 - 35	205 (73.7%)	73 (26.3%)	$\chi^2 = 13.945$ (p = 0.003)
	31 - 40	153 (61.0%)	98(39.0%)	
	41 - 50	90 (64.3%)	50 (35.7%)	
	Above 50	43 (55.8%)	34 (44.2%)	
Race	Malay	313 (70.5%)	131 (29.5%)	$\chi^2 = 47.272$ ( p = 0.002)
	Chinese	47 (41.2%)	67 (58.8%)	
	Indian	49 (58.3%)	35 ( 41.7%)	
	EM Bumi	59 (83.1%)	12 (16.9%)	
	Others	5 (50.0%)	5 (50.0%)	
Entry Mode	Flexi	274 (68.0%)	129 (32.0%)	$\chi^2 = 2.403$ ( p = 0.121)
	Normal	198 (62.5%)	119 (37.5%)	

As for the perception towards the use of English language as the medium of instruction, learners who did obtained CGPA of 3.0 and above expressed more favourable perception than those who did not fair well academically (Table 3). Amongst the better performing learners, the highest rating was for their perceived competency followed by perceived ability and general attitude towards English. As such it is evident that their confidence in their English language competency is positively associated with their academic performance. This is logical since all courses at OUM are taught in English.

Similarly, learners' motivation and their academic performance are positively related learners who obtained CGPA 3.0 and above recorded significantly higher mean scores for both intrinsic and extrinsic motivation.

**Table 3: Association Between Learner Perception and Attitude Towards the Use of English as a Medium of Instruction**

	CGPA	N	Mean	SD	t-value	
Perceived Competency	Below 3.00	488	3.935	1.034	-7.369	0.0001
	3.00 and above	252	4.509	0.946		
Perceived Ability	Below 3.00	487	3.748	1.040	-8.575	0.0001
	3.00 and above	252	4.414	1.031		
General attitude towards English	Below 3.00	490	3.843	0.672	-8.926	0.0001
	3.00 and above	254	4.317	0.714		
Instrumental Motivation	Below 3.00	490	4.487	1.127	-6.584	0.0001
	3.00 and above	254	5.030	0.940		
Intrinsic Motivation	Below 3.00	489	4.656	1.067	-4.896	0.0001
	3.00 and above	254	5.025	0.919		

Apart from assessing the association between the predictor variables (selected demography, attitude towards the use of English, and motivation) and academic performance, this paper also modelled the relationship between these factors to predict academic performance. The multiple logistic regression was used for this purpose. In this logistic regression model, the dependent variable was defined as the CGPA of learners (either less than 3.00 or 3.00 and above), while the independent variables were the learners demography (gender, age, race, and entry mode), attitude towards the use of English as a medium of instruction, and motivation. A step-wise regression model was built using the backward LR technique where the independent variables were included in hierarchical fashion and the likelihood ratio test was used to test the differences between the initial model and the various nested models which are subsets of the first model. Each regression coefficient indicates the effect of the variable on CGPA after controlling for the other variables listed.

The results show that the factors that significantly contribute to learners' attainment of CGPA of 3.00 and above are age, race, all dimensions of attitude towards English as well as intrinsic and extrinsic motivation (Table 4).

The logistic regression model is a predictive model. As such, the sensitivity and the specificity of the model are important indicators to reflect the goodness of the model. Taking all the components of attitude towards English, motivation, age and race into account, the sensitivity of the model is 70.15% while the specificity is 71.21%. In other words this logistic regression model can predict the occurrence of a CGPA of 3.00 and above with an accuracy of 70.00%. Whilst, the ability of the model to predict learners getting a CGPA less than 3.00 is also about 70.00%. The Cox & Snell R-Square is 0.155 while the Nagelkerke R-Square is 0.214. Both values show that the three predictor variables account for about 15 to 20 percent of variation in the CGPA of learners.

**Table 4: Results of Multiple Logistic Regression Analysis**

Variables in the Equation							
Reference Group		B	S.E.	Wald	df	Sig.	exp B
	Perceived Competency	0.612	0.182	11.307	1	0.001	1.844
	Perceived Ability	0.594	0.194	9.375	1	0.002	1.811
	Attitude	0.469	0.143	10.757	1	0.001	1.598
	Instrumental Motivation	0.512	0.171	8.965	1	0.003	1.669
	Intrinsic Motivation	0.666	0.192	12.032	1	0.000	1.946
	Learning Instruction	0.495	0.193	6.578	1	0.039	1.640
Male	Female	0.319	0.189	2.838	1	0.092	1.375
Malay	Chinese	0.741	0.268	7.612	1	0.006	2.097
	Indian	0.577	0.318	3.283	1	0.009	1.781
	East Malaysia Bumi	-1.08	0.392	7.606	1	0.006	0.340
	Others	0.007	0.76	0	1	0.993	1.007
Flexi Entry	Mode of Entry	0.290	0.189	2.346	1	0.126	1.337
	Age	0.713	0.011	7.014	1	0.008	2.013
	Constant	-5.392	0.782	47.562			

a. Variable(s) entered on step 1: Perceived Competency, Perceived Ability, Attitude, Instrumental Motivation, Intrinsic Motivation, Learning\_ Instruction, Gender, Race, Mode of Entry, Age.

## Discussion

Amongst the demographic factors that significantly contribute towards adult learners' academic performance are age and ethnicity whilst gender and mode of entry are not significant predictors of academic achievement. This is in line with the findings from previous studies, for example, Barrow, Reilly & Woodfield (2009) found that there is no significant differences between men and women with regard to their academic performance whilst age was reported as a significant contributor to academic performance.

This finding is consistent with that of recent research indicating that older learners are more concern with their academic performance since getting good results is associated with self image, where most senior learners hold high position in their workplace (Sheard, 2009). Though age is a predictor for success in online distance learning, the results of this study show that the percentage of learners from all age categories who obtained CGPA 3.00 and above is less than 50% thus the university should look into initiatives that can improve their level of academic performance.

Ethnicity on the hand, has been one of the most commonly researched variable in predicting academic performance in the Malaysian context partly due to the ethnic mixture of the society. Joseph, C (2008) in

her meta analysis of social factors and education in Malaysia concluded that among many factors ethnicity has emerged as a significantly contributing factor towards academic performance of learners at all levels.

As for the soft constructs particularly attitude and motivation, they seem to have positive impact on learners academic performance. This finding corroborates with that of Ahmed and Bruinsma (2006) who stressed that successful learners have significant higher motivation for achievement than unsuccessful learners. Similarly, the report by Akey, T.M (2006) acknowledged that academic achievement is highly correlated with learner's motivation and attitude. These findings lend a good support to the present findings.

## Conclusion

Using learner attitude and motivation, which are process measures, together with the demographic factor as predictors of academic achievement, academic institutions would enable to identify 'at risk' learners much earlier compared to using CGPA, which is a product measure. This would enable academic institutions to formulate more effective intervention strategies to address the needs of learners that record low levels of achievement. Such a strategy would not only benefit ODL institutions in terms of reducing the attrition rates but more importantly, provide for a more rewarding experience for learners in an ODL environment.

Notwithstanding the above, the three predictor variables used in the study account only for 15-20 percent of variation in achievement. This calls for further research on other critical factors such as work experience, study skills, types of interaction, orientation and admission, ongoing assistance, study skills, problem solving and peer relations.

## References

- Ahmed, W and Bruinsma (2006). A structural model of self-concept, autonomous motivation and academic performance in cross cultural perspective. *Electronic Journal of Research in Educational Psychology*, vol 4, no. 3, pp 551-576.
- Akey, T.M (2006). *School Context, Student Attitudes and Behavior, and Academic Achievement: An Exploratory Analysis*. MDRC.
- Bandura, A. (1991). Social cognitive theory of moral thought and action. In W. M. Kurtines & J. L. Gewirtz (Eds.), *Handbook of moral behavior and development* (Vol. 1, pp. 45-103). Hillsdale, NJ:
- Barrow, M, Reilly. B & Woodfield, (2009).The determinants of undergraduate degree performance: How important is gender?', *British Educational Research Journal*, 35(4): 575 - 597

- Chen, KC, Jang SJ & Branch, RB, 2010, 'Autonomy, affiliation, and ability: Relative salience of factors that influence online learner motivation and learning', *Knowledge Management & E-Learning*, vol.2, no.1. pp. 20-30.
- Joseph. C (2008). *Ethnicities and Education in Malaysia: Difference, Center and Margins*. Wan, G. F. (Ed) *The Education of Diverse Populations: A Global Perspective*. Dordrecht: Springer
- Ogbu, J. U. & Simons, H. D. (1998) Voluntary and involuntary minorities: a cultural-ecological theory of school performance with some implications for education, *Anthropology and Education Quarterly*, 29(2), 155–188.
- Sheard. M, (2009). Hardiness commitment, gender, and age differentiate university academic performance, *British Journal of Educational Psychology*. vol 79, pp.189–204
- Shih, C. C. & Gamon, J. (2001). *Web-based learning: Relationships among student motivation, attitude, learning styles, and achievement*. *Journal of Agricultural Education*, Volume 42, Issue 4, 2001.
- Wigfield, A., & Eccles, J.S. (2000). Expectancy-value theory of achievement motivation. *Contemporary Educational Psychology*, 25, 68-81.