



## **The Password Test – An investigation into ‘Predictive Validity’ when used as a test of entry for the NCUK International Foundation Year in China**

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### **Abstract**

NCUK is committed to on-going review, and this study forms a part of that process. After introducing the Password Test as a standard test of entry in 2009, the continued reliability of the test and the setting of the required entry grades needed to be re-evaluated. This investigation took the entrance results of approximately 200 Chinese students who entered the NCUK programme in 2009, and compared them with their final EAP course grades after completing the course in 2010. The results indicated that there is a high correlation between the entrance grade and the students’ final performance on the course, and that the present cut-off point of Password 5.0 is correctly placed. This would indicate that the Password Test is an extremely reliable test of entry in these circumstances.

## Relating Password And The NCUK IFY Final Assessment

Many studies have been done on tests such as the IELTS and TOEFL to investigate the reliability of these tests as indicators of future academic performance on undergraduate courses (Ingram and Bayliss, 2007 and others) but the idea of predictive validity itself is problematic. In most cases, it is a version of concurrent validity in that it is in attempt to find a correlation between two sets of variables which may or may not be directly related and have been assessed or measured using different methods, and where one set of data is collected sometime after the first assessment. Other influences on student performance need to be taken into account, the personal circumstances of the student may change, the student may not study effectively, the standard of course delivery or resources available may differ, and so on (Weir, 2005).

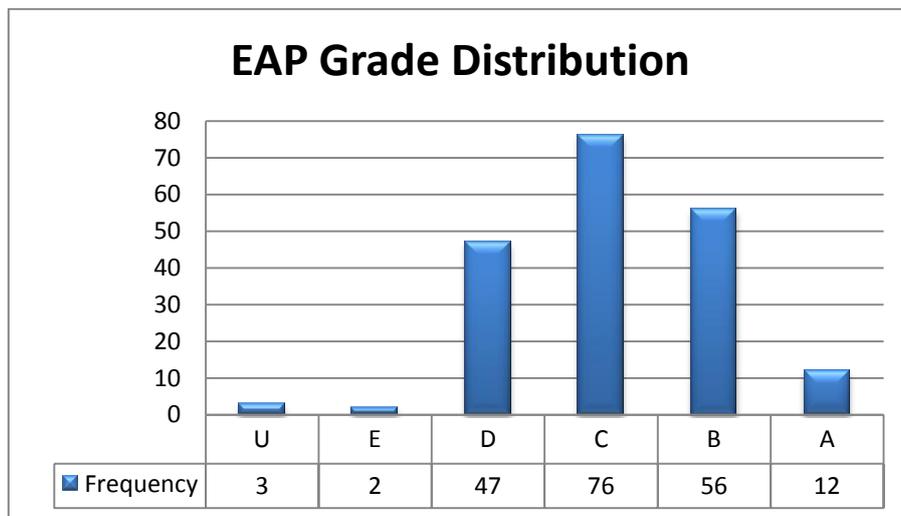
In this case, the study relates the Password Test to the final assessment of the NCUK IFY (International Foundation Year) programme. The course is approximately 40 weeks long and is a needs-based EAP syllabus integrated into an immersive subject (Engineering or Business) course. As well as a final 'traditional' summative exam, 60% of the grade is based on coursework. To meet the entrance requirements of the consortium members, the assessment generates grades in all 'four skills' as well as an overall grade. Listening and Speaking are both explicitly assessed in the final exam and the summative coursework. NCUK offers a guarantee that states that a student who attains Grade D and D in the 'four skills' will be guaranteed placement at one of the consortium universities.

For the purpose of this study, a sample of 200 students who enrolled in the NCUK IFY programme in 2009 was taken from various NCUK centres across China. The sample consisted of an even split of male and female students, ranging in age from 17-19, with 126 studying Business and 70 Engineering students, which is representative of the overall NCUK student population in China. The Password Test results for all the students were directly compared with the final NCUK EAP grade. For ease of comparison, the NCUK grade was given the 'equivalent' Password grade, these having being established in standardisation tests done in 2008 and 2009 (see appendix). From the original

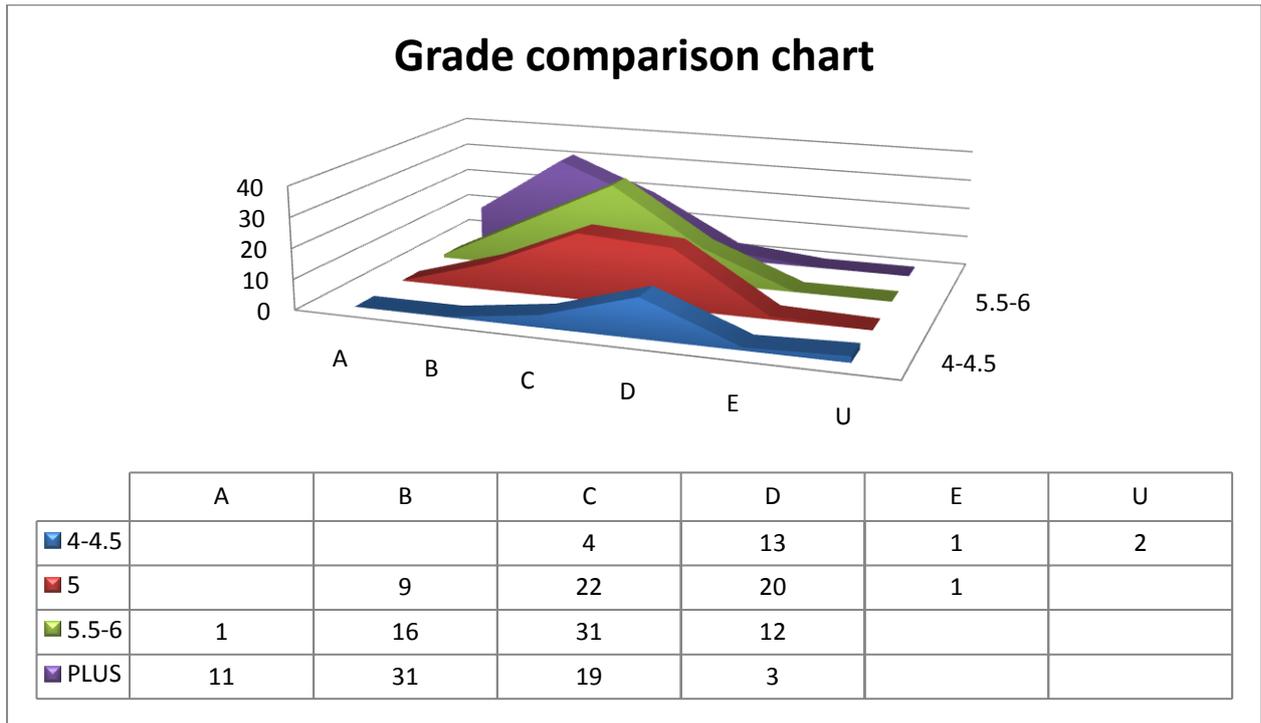
sample, four were removed as they subsequently withdrew from the course, leaving a sample of 196 students.

The entrance cut-off point for the IFY programme was Password 5.0, though local centres are allowed discretion where other indicators (interview or written essay) would indicate that a student who scored Password 4.5 was in effect at a higher ability level. There were three Password 4 and twenty Password 4.5 in the original sample of 200, but three of the Password 4.5 students withdrew during the programme.

The final EAP grade distribution for the entire sample is shown in the charts below.

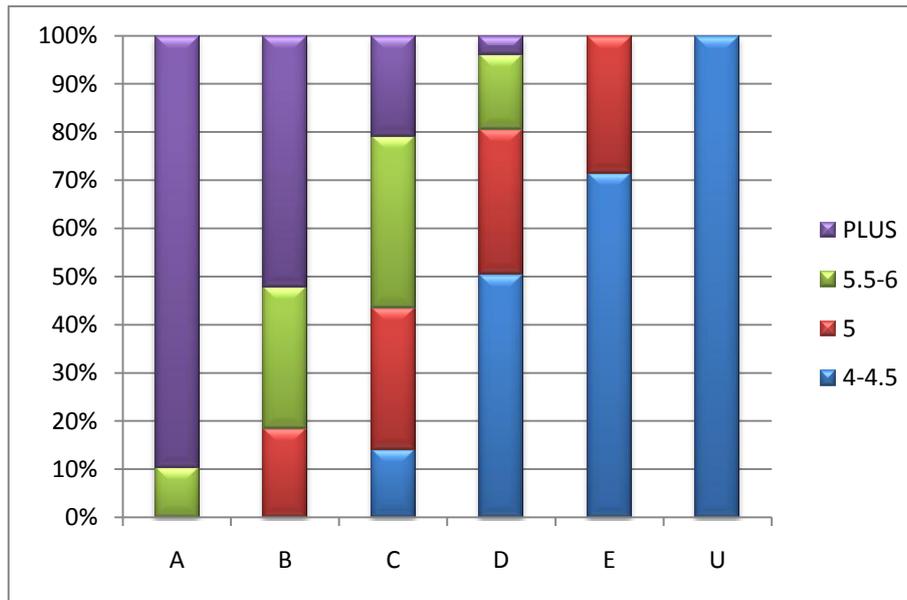


The chart below compares the final EAP grades with the Password grades at entry.

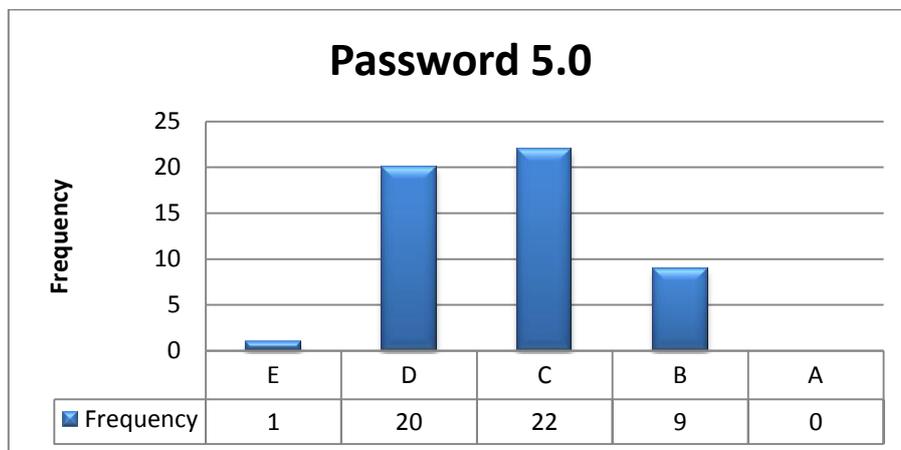


An initial correlation between the grades is immediately indicated, which is more obvious on the following chart.

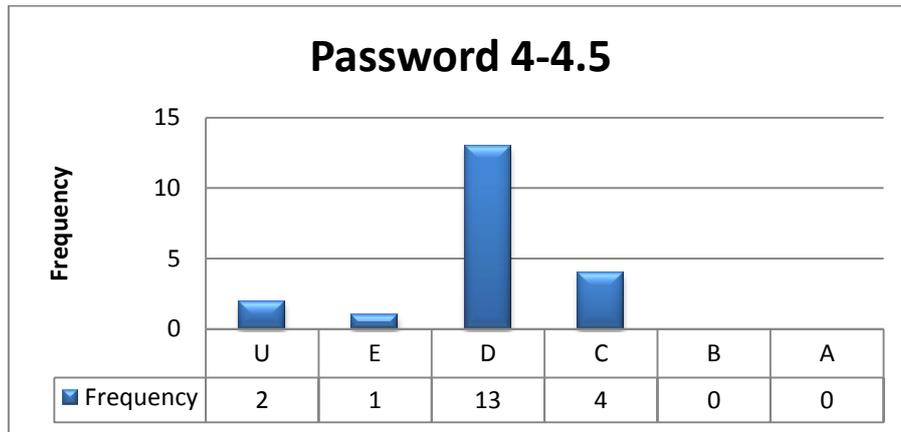
This chart shows the proportion of students at each grade against the Password score at entry.



Password 5 is the current cut point for entry, and those results are shown below.



Though not indicated on the main charts, 39 of 52 (75%) also met the terms of the NCUK guarantee. There is a clearly observable difference between these students and the Password 4-4.5 students shown below.



By comparison, only 5 of these students (20%) met the terms of the guarantee.

In addition to the above graphical analysis of the test results, a matched t-test was done and a Pearson correlation calculated, as shown in the following table. This was deemed appropriate given that the grade spans are equivalent and because previous studies have determined a reliable direct equivalence between the Password and NCUK grades.

t-Test: Paired Two Sample for Means

	<i>Variable 1</i>	<i>Variable 2</i>
Mean	5.586735	6.05102
Variance	0.510387	0.235845
Observations	196	196
Pearson Correlation	0.582113	
Hypothesized Mean Difference		0
df		195
t Stat	-11.1098	
P(T<=t) one-tail	7.81E-23	
t Critical one-tail	1.652705	
P(T<=t) two-tail	1.56E-22	
t Critical two-tail	1.972204	

This shows a high correlation, which supports the above analysis.

## Conclusions

The analysis of the students in this sample would seem to indicate a high degree of correlation between the grades and therefore that the predictive validity of the Password Test in this situation is extremely reliable. It also demonstrates that the cut-point of Password 5 has been correctly chosen as students at this level have a high probability of successfully completing the course, in marked contrast to those at Password 4.5 and below.

The strong relationship between Password score at entry and final grade is all the more remarkable, considering that the NCUK EAP summative assessment is weighted in favour of coursework rather than a single exam and directly assesses all 'four skills', whilst Password appears at first glance to test only lexico-grammatical skills. This analysis would suggest that the Password Test should be considered as an extremely reliable indicator of overall ability, and perhaps further specific studies should be done into correlation between Password and listening/speaking ability.

## References and Resources

Hill, K., Storch, N., & Lynch, B. (1999). 'A comparison of IELTS and TOEFL as predictors of academic success' in *IELTS Research Reports* Volume 2.

Ingram, D, and Bayliss, A (2007). 'IELTS as a predictor of Academic Language Performance' in *IELTS Research Reports* Volume 7.

Weir, C. (2005). *Language Testing and Validation: An Evidence-Based Approach*. Palgrave Macmillan.

## Appendix

### 1. NCUK grade/ Password Test grade equivalency table

<b>NCUK EAP</b>	<b>%</b>	<b>PASSWORD</b>
<b>A*</b>	80+	
<b>A</b>	70-79	
<b>B</b>	60-69	Password Plus
<b>C</b>	50-59	6
<b>D</b>	40-49	5.5
<b>E</b>	35-39	5
<b>U</b>	<35	4.5
		4
		3.5
		3.0