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**VALIDATING ESL SPEAKING INSTRUMENT FOR  
VOCATIONAL COLLEGE STUDENTS: AN EXPLORATORY  
FACTOR ANALYSIS**

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**Abstract**

This paper aims to validate the instrument used to measure Vocational Colleges Students' Speaking Performance in Sarawak through the Exploratory Factor Analysis (EFA) procedure. Through Foreign Language Classroom Anxiety Scale (FLCAS), the study is interested to see which dimension, namely Communication Apprehension, Fear of Negative Evaluation or Test Anxiety are more prominent in affecting the Students' Speaking Anxiety problems. Prior to pilot testing, the items from FLCAS were adapted and sent to the experts for their review and comments. 100 randomly selected respondents were selected to carry out the pilot study from the six Vocational Colleges in Sarawak. IBM-SPSS version 25.0 was used to analyse the data obtained. The results had shown that out of the original 33 items only 19 items were retained to measure SSP construct due to their factor loading being above 0.6 whilst 14 items were deleted due to low factor loading. Findings, had demonstrated that overall Cronbach's Alpha value for the instrument was excellent which was 0.924. Hence, these findings had shown that the questionnaire was highly reliable and could be used to carry out the field study in the context of the six Vocational Colleges in Sarawak.

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## 1. Introduction

The Malaysian Education Blueprint (MEB) was launched in 2013, and its main concern is the development of Malaysian education as a whole up to 2025. It aspires to transform the existing education system and to make the Malaysian education renown in the world. Through MEB, it is the aspiration of the nation to produce students who are proficient in both languages, Bahasa Malaysia and English language. This is due to the fact that Bahasa Malaysia is the official language and its language of unity whilst English language is regarded as the language of communication at international level ( Ministry of Education Malaysia, 2013a).

However, in the context of Malaysia, the students' incompetency in the speaking skills is of great concern as they face challenges in acquiring a good proficiency in English itself. More often than not, students are passive to use the language for spoken interaction (Nadesan & Md. Shah, 2020). Despite the fact that they have been studying for 11 years and yet they are still unable to speak the English language proficiently (Musa et al., 2012).

According to (Tuan & Mai, 2015, as cited in Dayat, 2017), one of the factors that could affect the students' speaking performance is the affective factor such as motivation, confidence and anxiety. However it is the interests of the study to investigate how anxiety factor could affect the students' interaction in the English as a Second (ESL) classrooms as it could create an impact on the learning process (Kralova & Soradova, 2015). Horwitz et al. (1986) also propounded that learning the foreign language is threatening as it poses difficulties especially for the anxious students. Therefore, the teachers should acknowledge, to deal with and eventually help to overcome the debilitating anxiety problems experienced by the students in the foreign language learning.

## 2. Problem Statement

The transformation of Malaysian Education System also regarded Vocational Education as an impetus to produce skilled and qualified students required by the industries (Ministry of Education Malaysia, 2013b). It all started in 2012 with the launching of Vocational Transformational Education Programme and it had successfully transformed the mind-set of Malaysians to recognize vocational education as a significant contributor to the development of the country (Nazura Ngah. Berita Harian Online, 2015).

With the ever-changing job market and progressive technology, Malaysia needs to reposition its workforce to meet the expectations of the industries. One of the indicators of employability skills which are deemed pertinent for Technical and Vocational educational Training (TVET) graduates is communication skills (Hasril Amiruddin, 2015). This signifies that notwithstanding TVET graduates having educational qualifications in their respective fields but also needs to possess interpersonal abilities such as communication skills. Hence, it is commendable that TVET institutions place a great deal of emphasis in respect of the generic skills relating to communication skills in the English language specifically (Balakrishnan et al., 2020).

However, a study done by Yusoff et al. (2017, as cited in Suhaili & Mohama, 2021), the unemployment among the graduates were due their inability to communicate well in English language

since technical skills alone are not enough to make them marketable especially if they were targeting an international market. Hence, there is an urgent need to address the issues of communication skills among the TVET graduates so as to make them more marketable in the ever-changing job market.

### **3. Research Question**

This study questions the level of speaking anxiety among the students from cohort 2021 studying at the six Vocational Colleges in Sarawak and the dominant factor contributing to it.

### **4. Purpose of the Study**

In the interest of this, the researcher would like to investigate the students' speaking anxiety level among six Vocational Colleges in Sarawak and the main factor that could affect their speaking performance.

### **5. Research Methods**

The study uses a quantitative approach and the FLCAS questionnaire developed by Horwitz et al. (1986) to assess the speaking anxiety issues at the six Vocational Colleges in Sarawak, which the study predicts will have an impact on the students' speaking performance in English as a Second language (ESL) classrooms. The three components namely Communication Apprehension, Fear of Negative Evaluation and Test Anxiety as asserted by Horwitz et al. (1986) can affect the oral communication competencies in learning a foreign language. Thus, by using 5 point Likert scale comprising of 33 items, the FLCAS instrument is utilized to evaluate the difficulties in learning a foreign language faced by the students.

#### **5.1. Data gathering and processing**

Prior to pilot testing, questionnaires were sent to the experts for their review and comments for face validity, content validity and also criterion validity (Shkeer & Awang, 2019; Yahaya et al., 2018). Later, the improved and amended items were distributed to 100 randomly selected respondents from cohort 2021, studying at the six Vocational Colleges in Sarawak for data collection. Subsequently, the data collected was analyzed by using Exploratory Factor Analysis (EFA) procedure using Statistical Package for Social Science Version 25 (SPSS Version 25.0). The EFA procedure is to determine the measuring items that are useful for the field study, their dimensionality and also to ascertain the internal reliability of the construct (Shkeer & Awang, 2019).

### **6. Findings**

Below are the findings for the study based on EFA procedure.

### 6.1. Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity

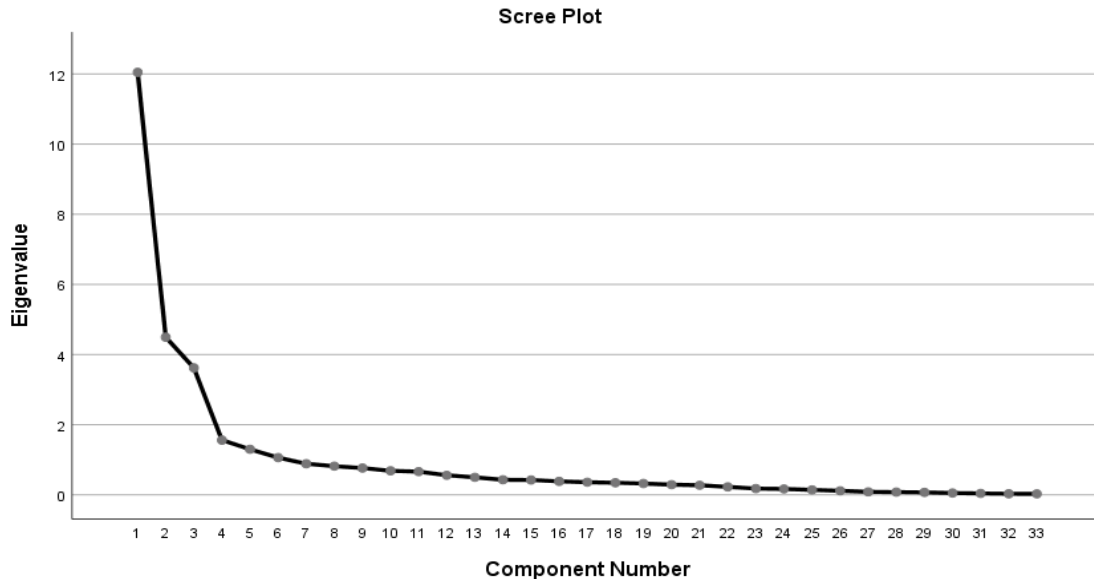
**Table 1.** The value for KMO and Bartlett's test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.861
Bartlett's Test of Sphericity	Approx. Chi-Square	3047.700
	df	528
	Sig.	.000

Table 1 showed the value for Kaiser-Meyer Olkin (KMO) for this study, 0.861 which was regarded as excellent because it had surpassed the recommended value of 0.6 (Baistaman et al., 2020; Hoque et al., 2018; Kaiser, 1974). On top of that, the Bartlett Test Significance value in Table 1 is 0.000 which met the significance value of less than 0.05. The findings indicated that the data was sufficient to continue with the EFA procedure (Bahkia et al., 2019).

### 6.2. Scree plot

Plotting a graph known as scree plot is a technique to determine whether the eigenvalue is large enough to represent a meaningful factor. Each eigenvalue is shown by a graph (Y-axis) against the factor with which it is related (X-axis) and makes the meaningful factor becomes noticeable (Catell, 1966).



**Figure 1.** The scree plot clearly shows three components emerged

In Figure 1, the scree plot showed three components emerged from the EFA procedure for SSP construct, 33 items from the EFA procedure were grouped into three components and they are named as Component 1 for Communication Apprehension, Component 2 for Fear of Negative Evaluation and with Component 3 as Test Anxiety (Horwitz et al., 1986).

### 6.3. Total Variance Explained (TVE)

**Table 2.** Total variance explained contributed by every component

Component	Total Variance Explained								
	Initial Eigenvalues			Extraction Sums of Squared			Rotation Sums of Squared		
	Total	% of Variance	Cumulative %	Loadings			Loadings		
				Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	12.046	36.503	36.503	12.046	36.503	36.503	8.246	24.987	24.987
2	4.494	13.618	50.121	4.494	13.618	50.121	7.387	22.385	47.372
3	3.621	10.972	61.092	3.621	10.972	61.092	4.528	13.720	61.092

Extraction Method: Principal Component Analysis.

Another measure known as Total Variance Explained in Table 2 indicated how many items used in the study managed to explain the respective latent construct. Table 2 showed that the Total Variance Explained for the three components was 61.092% with component 1, 2 and 3 each contributing 36.503%, 13.618% and 10.972% respectively. Hence, the three components managed to explain 61.092% of the SSP construct and had met the minimum requirement of 60% (Bahkia et al., 2019; Hoque et al., 2018; Yahaya et al., 2018).

Furthermore, three distinct dimensions with eigenvalue exceeding 1.0 were extracted from the factor analysis procedure. The factors with latent roots or an eigenvalue larger than 1 were recognized as relevant by Hair et al. (2019), whilst components with latent roots less than 1 were inconsequential and ignored.

### 6.4. Rotated component matrix

After determining the total variance of Students' Speaking Performance, the next task is to determine the number of items for the respective components. From the Rotated Component Matrix as shown in Table 3, the items were group under three components namely Communication Apprehension consisting of 8 items, Fear of Negative Evaluation containing 6 items and Test Anxiety were loaded with 5 items. Out of the 33 items, 19 items were retained since their factor loadings were greater than 0.6 whilst 14 were dropped due to low factor loading (Awang, 2012; Awang et al., 2018; Khirfan et al., 2022)

**Table 3.** The rotated component matrix and items retained in students' speaking performance instrument

	Rotated Component Matrix <sup>a</sup>		
	Component		
	1	2	3
CA1	.826		
CA2	.893		
CA3	.812		
CA6	.920		
CA8	.937		
CA12	.845		
CA14	.832		
CA15	.926		

FNE1	.922	
FNE3	.898	
FNE4	.894	
FNE5	.840	
FNE6	.861	
FNE7	.838	
TA1		.922
TA3		.881
TA5		.877
TA6		.887
TA8		.888

Extraction Method: Principal Component Analysis.  
 Rotation Method: Varimax with Kaiser Normalization.  
 a. Rotation converged in 5 iterations.

### 6.5. Reliability analysis

Reliability is defined as the stability and consistency of an instrument and is an indicator of a good measurement, according to Sekaran and Bougie (2016). Cronbach's Alpha, a measure of the average correlation between all the items that make up the scale, can be used to determine the internal consistency which was employed in the current study to examine the degree of inter-correlation among the items (Pallant & Manual, 2001; Zikmund et al., 2012).

**Table 4.** Cronbach's Alpha results

Component	Reliability Statistics	
	No of Items	Cronbach Alpha
CA	8	0.967
FNE	6	0.962
TA	5	0.949
Total	19	
All Items	19	0.924

In Table 4, the overall Cronbach's alpha value for the three components is 0.924 and was considered as excellent by George and Mallery (2003) as depicted in Table 5. Thus, the level of reliability for all the 19 items were considered as excellent according to George and Mallery (2003).

**Table 5.** Rules of Thumb of Cronbach's Alpha (George & Mallery, 2003)

Alpha Value	Level
>0.90	Excellent
0.80-0.90	Good
0.70-0.80	Acceptable
0.60-0.70	Questionable
0.50-0.60	Poor
<0.50	Unacceptable

## 7. Conclusion

As a conclusion, the validated instrument can be used to measure the SSP construct specifically among the six Vocational Colleges in Sarawak since the EFA procedure results had displayed a high value of Cronbach's Alpha, indicating the instrument with 19 items had adequate internal reliability to measure the SSP construct (Bahkia et al., 2019; Hoque et al., 2018; Yahaya et al., 2018). The instrument can be used in the future by those who have the same interest as the researcher of this study.

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