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RELIABILITY AND VALIDITY OF THE INSTRUMENT FOR MEASURING MALAYSIAN POLYTECHNIC ENGLISH LANGUAGE EDUCATORS' PERCEPTION TOWARDS THE CEFR IMPLEMENTATION

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ABSTRACT

This study set out to find out how Malaysian Polytechnic English language instructors felt about the Common European Framework of Reference for Languages' launch (CEFR). The literature review highlighted the issues with changing policies, adapting curricula, and the difficulties experienced by English language teachers. 30 English educators of different Malaysian polytechnics were approached and requested to complete a self-administered questionnaire via Google Forms to obtain the data. The response was analyzed for reliability and validity with Cronbach's alpha and Exploratory Factor Analysis (EFA). Three key factors were recognized and validated using Exploratory Factor Analysis: the educators' familiarity, the educators' acceptance, and the educators' challenges. The questionnaire, which consists of 15 items and uses a 6-point Likert scale with 5 = Agree, 4 =

Slightly Agree, 3 = Slightly Disagree, 2 = Disagree, and 1 = Strongly Disagree, has been shown to be extremely dependable.

Keywords: Malaysian polytechnics, Common European Framework of Reference for Languages (CEFR), Cronbach's alpha, Exploratory Factor Analysis (EFA).

INTRODUCTION

English language instruction has undergone numerous modifications in the Malaysian educational system over time, including adjustments to the curriculum, teaching methods, and emphasis on it. The English for Teaching Mathematics and Science (EteMS) strategy was executed in stages for the Malaysian primary and secondary school system in 2002 to raise the English proficiency level and make scientific and technical knowledge more approachable (Pillai & Ong, 2018). Although EteMS did not emphasize English as a topic, it increased the burden on English educators because they had to ensure that pupils attained a certain level of proficiency before they could use the language in Maths and Science classrooms.

The Ministry of Education (MOE) later abandoned the strategy in 2012, reverting the language of instruction to Bahasa Malaysia. The *Memartabatkan Bahasa Malaysia Memperkukuh Bahasa Inggeris* (MBMMBI) policy was introduced to replace EteMS (Omar et al., 2020). Despite the shift, according to Zaman (2019), MOE introduced the Dual Language Programme (DLP) in 2016 as a pilot programme in a small number of schools to encourage students to use English when studying math and science. It aimed to produce English language proficiency (Bullah & Yunus, 2019).

The Malaysian public-school system adopted the Common European Framework of Reference for Languages (CEFR) in 2013. It was primarily created to systematize language proficiency in Europe for speakers of various languages, which was later adopted by other nations like Malaysia (Kaur & Jian, 2022). It is a widely accepted framework that is used as the current international standard for teaching and studying languages. Additionally, it offers a thorough explanation of the listening, speaking, reading, and writing skills of learners of foreign or second languages across six proficiency levels.

CEFR aims to facilitate communication and cooperation among language learners and teachers across different countries and cultures.

Traditionally, language learners have been categorized based on letter grades or numerical scores given in reports or transcripts. However, these grades and numbers fail to provide a comprehensive understanding of a learner’s actual abilities in the target language. In order to address this limitation, a more detailed and nuanced approach to describing language proficiency has been developed. In Table 1, CEFR defines language proficiency across six levels: A1, A2, B1, B2, C1, and C2. Each level is further divided into sublevels, allowing for a more precise evaluation of a learner’s abilities. The framework outlines the speaking, listening, reading, and writing abilities that students can acquire at each level.

Table 1

CEFR Global Scales and Descriptors (Mohd Don & Abdullah, 2019)

CEFR Global Scale		
Language user	Level	Descriptors (There are also detailed ‘Can Do’ statements for different language skills, grammar and vocabulary)
PROFICIENT USER	C2	Can understand with ease virtually everything heard or read. Can summarise information from different spoken and written sources, reconstructing arguments and accounts in a coherent presentation. Can express him/herself spontaneously, very fluently and precisely, differentiating finer shades of meaning even in more complex situations.
	C1	Can understand a wide range of demanding, longer texts, and recognise implicit meaning. Can express him/herself fluently and spontaneously without much obvious searching for expressions. Can use language flexibly and effectively for social, academic and professional purposes. Can produce clear, well-structured, detailed text on complex subjects, showing controlled use of organisational patterns, connectors and cohesive devices.
INDEPENDENT USER	B2	Can understand the main ideas of complex text on both concrete and abstract topics, including technical discussions in his/her field of specialisation. Can interact with a degree of fluency and spontaneity that makes regular interaction with native speakers quite possible without strain for either party. Can produce clear, detailed text on a wide range of subjects and explain a viewpoint on a topical issue giving the advantages and disadvantages of various options.
	B1	Can understand the main points of clear standard input on familiar matters regularly encountered in work, school, leisure, etc. Can deal with most situations likely to arise whilst travelling in an area where the language is spoken. Can produce simple connected text on topics which are familiar or of personal interest. Can describe experiences and events, dreams, hopes & ambitions and briefly give reasons and explanations for opinions and plans.
BASIC USER	A2	Can understand sentences and frequently used expressions related to areas of most immediate relevance (e.g. very basic personal and family information, shopping, local geography, employment). Can communicate in simple and routine tasks requiring a simple and direct exchange of information on familiar and routine matters. Can describe in simple terms aspects of his/her background, immediate environment and matters in areas of immediate need.
	A1	Can understand and use familiar everyday expressions and very basic phrases aimed at the satisfaction of needs of a concrete type. Can introduce him/herself and others and can ask and answer questions about personal details such as where he/she lives, people he/she knows and things he/she has. Can interact in a simple way provided the other person talks slowly and clearly and is prepared to help.

At the A1 and A2 levels, learners are considered beginners. They are able to comprehend and employ simple statements and phrases pertaining

to everyday activities, personal information, and basic interactions. The B1 and B2 levels are usually assigned to intermediate learners. Learners at the B1 level can handle most situations that happen when travelling in a region where the target language is spoken. They are able to use basic language to explain experiences and voice opinions. Learners are capable of comprehending sophisticated literature on both concrete and abstract subjects at the B2 level. They are able to compose writings that are precise and easy to understand, present, and take part in conversations. C1 and C2 levels are used to categorise advanced learners. Learners can hold impromptu discussions with native speakers and comprehend a broad variety of challenging materials at the C1 level. They can produce well-structured and detailed texts on complex topics. At the highest level, C2, learners have near-native proficiency. They can comprehend almost anything they read or hear, and they can communicate clearly and effectively in any setting.

PROBLEM STATEMENT

The government is attempting to ease educators into the new framework, but it is undeniable that streamlined curriculum transformation is not too pleasing. The hurdles for CEFR implementation are expected (Don, 2020; Savski, 2021; Foley, 2019). Rashid et al. (2017) emphasized that despite a strong public outcry from educators, policy reforms intended to increase educational quality were frequently implemented hastily. As evidence, various earlier research has identified a few ambiguities and problems relating to the CEFR consolidation into the Malaysian educational system (Aziz & Uri, 2017; Uri & Aziz, 2018; Lo, 2018; Kok & Aziz, 2019). Mohammed et al. (2021) reported that the challenges were found to be interrelated. These could be ascribed to a deficiency of teaching materials, training linked to the CEFR, and regulations that forbid classifying students based solely on proficiency. These created more significant difficulties for educators to execute CEFR effectively.

By examining potential obstacles that English language educators in Malaysian polytechnics may encounter while implementing a CEFR-aligned curriculum into the English syllabus, it is crucial to ensure that the instruments and methods employed are of high validity and

reliability. This is due to the fact that these two factors are critical in establishing how accurate and consistent the study's conclusions are. A high validity score guarantees that the instrument assesses the things it is intended to test, while a high reliability score guarantees that the instrument yields consistent results when administered differently.

The results may help evaluate the effects of the Malaysian adoption of the CEFR and raise educators' awareness of the difficulties they face, particularly for legislators and other pertinent stakeholders. The authorities engaged in creating new language-education policies may be able to develop new approaches to address any weaknesses that may have arisen during the design and planning stages of curriculum reform. Policymakers will be able to plan for the future and make the necessary adjustments to guarantee that the curriculum revolution goals are achieved by learning more about the perspectives of educators and the difficulties they encounter. This study concentrates on creating a trustworthy survey instrument in measuring Malaysian polytechnic English language educators' perception towards the CEFR implementation.

LITERATURE REVIEW

The implementation of the Common European Framework of Reference (CEFR) in the Malaysian education system has garnered attention from researchers (Sahib & Stapa, 2022). Educators' perceptions of the implementation of the CEFR in Malaysia have been the subject of numerous researches. These studies provide insights into the acceptance and reactions to utilizing the CEFR (Green, 2018; Tosun & Glover, 2020; Deygers et al., 2018; Shin & Yunus, 2021), the educators' knowledge with regard to the CEFR implementation (Uri & Aziz, 2018; Ngo, 2017; Alih et al., 2020), and the textbooks, curriculums, and teaching methods used by educators (Kanchai, 2019; Guerra, 2018; Hazar, 2021; Abi Maryo, 2021).

The impact of the English language instruction in Malaysia following the adoption of the CEFR was studied by Darmi et al. (2017). The study's conclusions provide insight into the difficulties' teachers face as well as their enthusiastic reactions to the application of the CEFR. Khair and Shah (2021) conducted a follow-up study centred on the

opinions of English teachers and representatives of the Ministry of Education over the application of the CEFR in Malaysia. The purpose of this study was to investigate the difficulties that stakeholders were facing in light of the CEFR's adoption.

Additionally, Ishak and Mohamad's study examined how the CEFR affected Year 2 LINUS (Literacy and Numeracy Screening) children's academic performance (2018). The researchers sought to determine whether the adoption of the CEFR improved the academic performance of Year 2 LINUS pupils and whether there were any variations in the LINUS screening test results.

The CEFR outlines the skills needed to converse in other languages (Uri & Aziz, 2018). According to Adelia (2023), the CEFR offers a solid foundation for the reciprocal acknowledgment of language proficiency. This extensively acknowledged framework supports learners, educators, course designers, and instructional authorities in contextualizing and synchronizing their activities.

According to He and Chen (2017), six descriptors in the CEFR framework are used to classify language learners' proficiency levels. Users of languages can be put into three primary categories: skilful users (levels C1 and C2), autonomous users (levels B1 and B2), and elementary users (levels A1 and A2) (Fleckenstein et al., 2020). For the basic language skills of reading, writing, listening, and speaking, Wudthayagorn (2018) proposed that the "can do" assertions should be specific descriptors of what learners can do.

From the literature review, it can be inferred that there is a need for further research focusing on the Malaysian polytechnic context. The development of a reliable and valid instrument specifically designed to measure Malaysian polytechnic English language educators' perception towards the CEFR implementation was found lacking since the literature review reveals that focus was only put on the perceptions of English teachers and Ministry of Education officials. Furthermore, the researchers believe that there is lack of studies that have rigorously tested the reliability and validity of the instrument used to measure educator's perception towards the CEFR implementation. Hence, this study is believed to be able to ensure that the instrument provides accurate and meaningful results on the challenges, perceptions, and impact of the CEFR implementation in the Malaysian polytechnic system.

Research Objectives

This study seeks to examine the following:

1. The quantitative evidence proving the reliability of the instrument used to identify Malaysian polytechnic educators' perceptions of the CEFR's implementation.
2. The quantitative evidence proving the validity of the instrument used to identify Malaysian polytechnic educators' perceptions of the CEFR's implementation.

Research Questions

1. What quantitative evidence proves the reliability of the instrument to identify Malaysian polytechnic educators' perceptions of the CEFR's implementation?
2. What quantitative evidence proves the validity of the instrument to identify Malaysian polytechnic educators' perceptions of the CEFR's implementation?

METHODOLOGY

Participants

30 English language educators from several polytechnics in Malaysia participated in this study, considering the fact that the population of Malaysian polytechnics English educators are relatively smaller as compared to the population size of English teachers in Malaysian schools. De Winter et al. (2009) projected that EFA can yield reliable results within a sample size smaller than 50.

Their years of experience ranged from 6 to 20. Respondents were requested to complete a Google Forms survey independently and respond honestly without anybody else's help. The completed questionnaire and the information were examined.

Instrumentation

Khair and Shah's (2021) questionnaire was substantially modified based on the study's goals. The survey contained two sections. Age, gender and year of service of the educators were listed in the first

section's demographic information. The educators' perceptions of the CEFR's execution in the Malaysian polytechnic were solicited in the second segment.

Data Collection Method

Participants from various Malaysian polytechnics participated in this study. For this study, three Malaysian polytechnics were chosen. The participant's involvement in the study was voluntary, and self-selected convenience samples were used to gather the data. Google Forms was used to transmit the questionnaires to the participants, and it took them approximately 10 to 15 minutes or the participants to complete them. In the introduction section of the questionnaire, it was stated that the goal was to collect accurate data. Participants were assured that their answers would remain entirely private and anonymous. The polytechnic's Research, Innovation, and Commercialization Unit approved the project.

Data Analysis

The Statistical Package for Social Sciences (SPSS) software version 27 was employed to export the data from the Google Forms questionnaires and analyse it using descriptive and inferential statistics. Cronbach's Alpha and Exploratory Factor Analysis (EFA) were utilized to analyse the data in this study. Cronbach's alpha, is a reliability coefficient to assess the internal consistency of the items in a questionnaire. It is a measure of the degree to which items in a test are related to one another, indicating how well the items are interconnected and whether they are measuring the same underlying construct (Nawi et al., 2020). While Principal Components (PC) extraction and Promax rotation method were used in EFA to get construct validity result. Kaiser's standard determined the factors; only Eigenvalues greater than one were considered (Shrestha, 2021).

FINDINGS

Reliability Analysis

The reliability of the instrument was assessed using SPSS version 27. Table 3 displays the reliability statistics for the survey, which were

determined using Cronbach's Alpha with the value of .950. With this result, it is clear that the instrument was reliable because it could deliver a consistent outcome every time (Sürücü & Maslakçi, 2020).

Table 3

Reliability Statistics

Cronbach's Alpha Based on Standardized		
Cronbach's Alpha	Items	N of Items
.950	.947	15

Table 4 shows the item-total statistics. The values reported in the last column (Cronbach's Alpha if Item Deleted) are higher than 70, making the values very dependable (Alpaslan et al., 2021).

Table 4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
ITEM1	60.4333	129.840	.808	.922	.945
ITEM2	60.3000	130.148	.857	.946	.944
ITEM3	60.9333	136.547	.634	.827	.949
ITEM4	59.9000	127.472	.847	.920	.944
ITEM5	59.8333	132.075	.825	.909	.945
ITEM6	59.9000	128.576	.875	.935	.944
ITEM7	59.6333	134.792	.873	.938	.945
ITEM8	59.9333	136.685	.654	.814	.949
ITEM9	59.6000	147.352	.284	.825	.954
ITEM10	59.4000	150.041	.061	.778	.959
ITEM11	59.8000	125.062	.796	.921	.946
ITEM12	59.9000	129.334	.843	.891	.944
ITEM13	60.0667	127.099	.872	.915	.944
ITEM14	59.5667	129.082	.776	.951	.946
ITEM15	59.6000	129.421	.827	.935	.945

Construct Validity

The SPSS version 27 program was used to analyze the data. An EFA using the Principal Component extraction approach was conducted

to examine the instrument’s factorial validity. Using this technique, three factors with Eigenvalues greater than one were extracted. To find additional interpretable factors, a Promax rotation was used. Table 5 provides the Eigenvalues and the proportion of the variation that may be explained for each factor. It shows three factors that were retrieved with Eigenvalues greater than one. The first factor had the highest Eigenvalue and explained the variance of all the factors, 9.333 and 62.2%, respectively.

Table 5

Eigenvalues and the Total Variance Explained of the Instrument

Component	Rotation Sums of Squared Loadings ^a						
	Initial Eigenvalues			Extraction Sums of Squared Loadings			
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	9.333	62.221	62.221	9.333	62.221	62.221	8.366
2	1.819	12.126	74.347	1.819	12.126	74.347	7.566
3	1.665	11.097	85.444	1.665	11.097	85.444	2.036
4	.771	5.142	90.586				
5	.359	2.390	92.976				
6	.324	2.159	95.135				
7	.200	1.333	96.467				
8	.151	1.008	97.476				
9	.090	.602	98.077				
10	.075	.500	98.577				
11	.062	.417	98.993				
12	.052	.347	99.341				
13	.046	.304	99.644				
14	.029	.190	99.835				
15	.025	.165	100.000				

Extraction Method: Principal Component Analysis

^a When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

The results of the Bartlett’s Test of Sphericity indicate that Table 6 is significant (P-Value <.05). Furthermore, the Kaiser-Meyer-Olkin (KMO) measure of sample adequacy (.857) is exceptional because it exceeded the required range of .6. The results indicate that there are sufficient interactions between the items for an exploratory factor analysis to be carried out (KMO >.6) and that the Bartlett’s Test is major (Hoque et al., 2018).

Table 6

The KMO and Bartlett's test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.857
Bartlett's Test of Sphericity	Approx. Chi-Square	547.571
	df	105
	Sig.	<.001

The unique contribution of a variable to a factor is projected by the pattern matrix of the items, shown in Table 7 (Fein et al., 2022). The loadings of each item onto the three factors are displayed in the pattern matrix (Auerswald & Moshagen, 2019). Table 7 demonstrates that each factor has two variables and more. As a result of the optimal factor loading, every item has a pattern matrix score of at least .40 (Watkins, 2018). The factors are characterized as (1) familiarity, (2) acceptance, and (3) challenge.

Table 7

Pattern Matrix

	Component		
	1	2	3
ITEM3	1.029		
ITEM4	.925		
ITEM2	.847		
ITEM8	.842		
ITEM7	.800		
ITEM5	.791		
ITEM1	.782		
ITEM6	.766		
ITEM14		1.072	
ITEM11		.981	
ITEM15		.957	
ITEM12		.867	
ITEM13		.754	
ITEM10			.943
ITEM9			.935

Extraction Method: Principal Component Analysis.

Rotation Method: Promax with Kaiser

Normalization.

^a. Rotation converged in 5 iterations.

DISCUSSION AND CONCLUSION

The results of the study proved the validity and reliability of the measure designed to find out how Malaysian Polytechnic English teachers felt about using the CEFR. The finding of the study show that the internal consistency gives a high reading value 0.950, this shows that this instrument has high reliability and can be used. Meanwhile, for the validity test, it was found that all 15 items were maintained with three constructs (1) familiarity, (2) acceptance and (3) challenge.

Therefore, both research questions, have been answered and can be concluded that the research instrument has validity and reliability that can be acceptable. Although the item was rigorously analysed for this study, some drawbacks exist. As the data were self-reported, they are prone to well-known biases and may not generally represent all instructors at Malaysian Polytechnics.

Irrespective of the instrument's possible drawbacks, it seems to be a clear road map for achieving CEFR success. As a result, this research may offer policymakers a clear framework to help them better comprehend the emotions and ideas of the educators and try to address their requirements. Any process's success depends significantly on the quality of the response, including the teaching and learning arena.

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