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RESEARCH ARTICLE

Investigation of the Malaysian Chinese's Knowledge Level on Malay Classifier *Biji*: Comparative Evidence from the East Coast and Central Coast

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ABSTRACT - Classifiers play a vital role in Malaysian daily interactions, reflecting the country's diverse ethnicities, cultures, and languages. Despite past studies indicating a decline in classifier usage among the younger generation, Malaysian Chinese individuals generally exhibit unsatisfactory proficiency in the Malay classifier. However, there is a belief that the heightened exposure of Chinese individuals in Malaysia's East Coast may contribute to a more nuanced understanding of Malay language and culture. This study compares the proficiency of Malaysian Chinese individuals from the East Coast and Central Coast in mastering the Malay classifier *biji*. Additionally, the study aims to elucidate the collocation of *biji* with nouns that are foreign, infrequently used, and unfamiliar to Chinese individuals in Malaysia. A 50-question questionnaire distributed via WhatsApp was utilised, recruiting 100 Mandarin-speaking participants from each region. The questions were formulated based on definitions and examples from authoritative Malay classifier dictionaries. Statistical analyses were conducted using data generated from Google Forms. Results reveal that geographic location does not significantly affect the understanding of the Malay classifier *biji* among East Coast residents, with overall performance below 50% in both regions. Respondents from both regions demonstrate better comprehension of typical *biji* characteristics but struggle with atypical applications, particularly concerning long fruits and vegetables, as well as kitchen utensils or containers with oblate, hollow, and slender attributes. Key influential factors include native language, language usage frequency, unfamiliarity with Malay culture, and school curricula. The findings aim to provide guidelines for second language learning and pedagogy, curriculum syllabi design, and to deepen insights into Malaysia's sociolinguistic landscape, thereby facilitating the development of targeted strategies to address linguistic challenges.

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1.0 INTRODUCTION

Humans consciously and subconsciously categorise ordinary objects into both linguistic and non-linguistic classifications, marking one of the primary processes in human cognition and language development (Croft & Cruse, 2004; Lakoff, 1987). According to Tai and Wang (1990), classifiers delineate a set of nouns by discerning prominent perceptual features, whether physical or functional, persistently associated with the entities represented by those nouns. In contrast, measure words do not classify but instead denote the quantity of the entity described by a noun. Generally, classifiers offer insight into how humans conceptualise objects.

As highlighted by the renowned scholars (Allan, 1977; Aikhenvald, 2000), classifiers imbue meaning by signifying salient characteristics attributed to the entities associated with their respective nouns. These observations extend to cross-linguistic studies, such as Saalbach and Imai's (2005) investigation of concept classification across Chinese, Japanese, German, as well as Schmitt and Zhang's (1998) exploration of product classification encompassing items like hair spray, soft drinks, lipstick, pianos, and fax machines in Mandarin, Cantonese, and Japanese. Building on the insights of Schmitt and Zhang, linguistic forms may manifest "representations of grammatical structures" (1998, p.120) operative within the cognitive framework.

In Malay, classifiers are termed as *penjodoh bilangan*, wherein *penjodoh* connotes a matchmaker and *bilangan* refers to numbers. Hence, *penjodoh bilangan* implies a matchmaking function for numbers or "words used in conjunction with nouns to denote numerical values" (Anwar & Lai, 2008, p. i). Malay classifiers share semantic functions akin to matchmakers with their corresponding nouns (Chung, 2010). The Malay classifier, fundamentally derived from the verb *chuchuk,* meaning 'to pierce through' (Asmah Haji Omar, 1972), anchors itself in Malay, an Austronesian language spoken by 20 to 30 million native speakers, boasting a rich and intricate numeral classifier system (Richards et al., 1985). This system allows for an exploration of the development of categorisation and labelling through numeral classifier categories. Consequently, the acquisition of additional Malay numeral classifiers appears to present heightened complexity. Notably, numerous exceptions exist to the norm in the selection of numeral classifiers. For instance, the classifier *biji*, meaning 'seed,' is applied to cups and plates rather than seeds; *buah*, meaning 'fruit,' is used for cars instead of fruits; and *kaki*, meaning 'leg', is employed for umbrellas and certain plants rather than legs. Due to the arbitrary nature of the bulk of Malay numeral classifiers, the Malay numeral classifier system is often characterised as loose, opaque, and 'semantically non-transparent'

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(Asmah Haji Omar, 1972). The classification of Malay numeral classifiers is systematic yet complex, involving mixed semantic criteria derived from various inherent semantic features of the objects in question (Salehuddin & Winskel, 2008).

1.1 Studies on Malay Classifiers

Previous research has investigated Malay classifiers, such as *helai* (Asmah Haji Omar, 2009) and *buah* (Chung, 2010). Chung (2010) posited that *buah* holds not only semantic significance but also cultural connotations. Additionally, *buah* is frequently metaphorically linked to a spectrum of 'products,' spanning from tangible artifacts to intangible concepts. Drawing from corpus-based analysis, the study concludes that the selection of *buah* may stem from its semantic prominence in Malay culture and its metaphorical association with various products.

Sew (2020) investigated Malay noun classifiers, specifically focusing on *helai, keping*, and *naskhah*, highlighting their continued relevance in describing flatness as a physical attribute in noun references. Most recent research undertook a comparative study to elucidate the similarities and disparities between the Chinese classifier 个 (gè) and the Malay classifier *buah*. Employing evidence sourced from reference classifier dictionaries of both languages, the study revealed nuanced distinctions between the two classifiers, despite certain overlapping usage. While both 个 (gè) and *buah* exhibit applicability in organising natural phenomena, architectural structures, and human-made objects, 个(gè) uniquely extends to encompass organs, human anatomy, edible fruits, temporal concepts, spatial directions, and intellectual products. Conversely, *buah* finds its exclusive usage in denoting transportation, accessories, household furnishings and appliances, printed materials, musical instruments, and performances (Ng et al., 2024).

Prior research endeavours (Teo, 2003; Lee, 2009a, 2009b; Low, 2014) have predominantly focused on comparing Malay and Chinese classifiers, delineating parallels, identifying divergences, and proposing pedagogical strategies to address observed deviations. Lai (2019) and Yeoh (2019) have individually examined the use of Chinese classifiers among secondary school students. However, scant attention has been directed towards empirical investigations into the proficiency of Malay classifiers among the Chinese individuals in Malaysia. This includes the most recent study conducted by Ng (2024), a dictionary-based comparative study between *biji* and the Chinese classifier 粒 (lì), performed through the perspective of typology. According to Ng (2024), the scope of objects that can be classified by the Chinese classifier 粒 (lì) is narrower than that of the Malay classifier *biji*. The classifier 粒 (lì) is specifically used for small and round objects, whereas biji can be applied to objects as long as they possess a "round" shape. Additionally, 粒 (lì) is employed for categorising liquid-like substances and dust, which is not the case for *biji*. In contrast to Chinese, Thai, and Vietnamese, the classifier for round-shaped objects in Malay does not distinguish based on size.

Classifier usage often reflects cultural conventions and societal norms, which can diminish over successive generations, as exemplified by the case of the Minangkabau community (Marnita, 1996). Studies have underscored a discernible decline in the usage of Malay classifiers, particularly among younger demographics, indicative of cultural shifts and evolving linguistic practices (Conklin, 1981). With the increasing exposure of Malaysian Chinese individuals, who constitute the second-largest ethnic community engaging with Malay language and culture in Malaysia, particularly in the East Coast region, scholars (Teo, 2005; Mohd Nor & Hasan, 2010; Mohd Shahrul, 2013; Muhammad Faris & Muhamad Faisal, 2020; Azarudin et al., 2021) have noted that Chinese individuals from the East Coast have contributed to a deeper understanding of Malay language and culture. Moreover, prestigious online newspaper Sinar Harian has also notably highlighted the proficiency of Chinese individuals in Kelantan as exemplary (Yap, 2020). Consequently, this study seeks to:

i) Compare the knowledge level of Malaysian Chinese individuals from both the East Coast and Central Coast regions in mastering the Malay classifier *biji*
ii) Delineate collocation of *biji* with different nouns that are foreign, infrequently used, and cognitively unfamiliar to Chinese individuals in Malaysia.

2.0 METHODOLOGY

To investigate the knowledge levels of Chinese respondents regarding the Malay classifier *biji,* the study employed a probability multi-stage cluster sampling approach across two distinct regions in Peninsula Malaysia: The East Coast and the Central Coast. The East Coast, comprising Pahang, Terengganu, and Kelantan, and the Central Coast, consisting of Selangor, Kuala Lumpur, and Putrajaya, were selected for comparative analysis to gain insights into the perspectives of Chinese respondents. Notably, the Chinese population in the East Coast is presumed to have greater exposure to Malay culture, language, and social interactions due to the region's higher Malay population density compared to the Central Coast. This heightened exposure was believed to contribute to a more nuanced understanding of Malay linguistic nuances and cultural practices among Chinese individuals residing in the East Coast. Statistical analyses were conducted using data generated from Google Forms. Google Forms is a free system for making cloud-based documents that allow users to create data-collection forms collaboratively. It also has spreadsheet functions that enables users to analyse data in multimodal formats to uncover patterns, relationships, and insights (Hsu & Wang, 2017). This study used descriptive analyses involves summarising and describing the main features of the data. The researcher calculating measures such as median and frequency distributions to give an overview of the respondents' knowledge levels regarding the Malay classifier *biji.*

Recruitment of Chinese respondents, aged between 18 and 30 years, was conducted on a voluntary basis. Trained enumerators collected 200 valid responses (100 per region) through Google Forms, with a 15-minute response time frame, resulting in a 100% response rate. The total of 50-question questionnaires, including 10 questions of dummy questions (hereafter referred to as DQs), was discreetly designed to enhance the methodological impact. The questionnaire was structured into three sections: Section A focuses on demographic information, while Sections B and C aim to assess respondents' knowledge of classifier *biji* usage. Section B

comprises four DQs, while Section C includes six, totalling 10 DQs that share similar characteristics. These questions were intentionally designed to either commonly collocate with classifier *biji* as presumed or deliberately confuse respondents, thereby ensuring the validity and reliability of the findings. Validity, as expounded by Taherdoost (2016), pertains to the extent to which collected data covers the actual area of investigation, while reliability, as underscored by Huck (2007), refers to the consistency across the components of a measuring instrument.

Section B (multiple-choice) consists of 20 questions, each accompanied by corresponding images. The inclusion of images aims to enhance respondents' comprehension of the nouns referenced in the questionnaire. Each question presents four potential answers, requiring respondents to select the correct classifier based on their understanding of the noun (image), as illustrated in Figure 1.

Figure 1

An example of a multiple-choice question illustrating egg (telur)

Section C (true or false) consists of 30 questions, each accompanied by corresponding images, similar to the previous section. This format provides respondents with two possible answers: true or false. Each question in the section is also accompanied by an image to aid in the comprehension of the nouns referenced in the questionnaire. Respondents were instructed to select their response based on their understanding of the noun (image), as illustrated in Figure 2.

Figure 2

An example of a true or false question illustrating vase (buyung)

The Malay classifier *biji* was the focus of inquiry in this study, with questions designed based on definitions and examples from two prestigious Malay classifier dictionaries (Anwar & Lai, 2008; Dirin, 2014). For this research, these two specific renowned dictionaries were selected due to their comprehensive listings of nouns collocated with the Malay classifier *biji,* surpassing other available dictionaries in this aspect. Their inclusion was motivated by their extensive coverage, ensuring that a thorough examination of classifier usage could be conducted.

3.0 RESULTS AND DISCUSSION

3.1 Demographic Information of the Respondents

Section A of the questionnaire is about the demographic information of the respondents. The distribution of respondents by demographic characteristics is illustrated in Table 1. Notably, a majority of respondents in both the East Coast and the Central Coast were female, constituting 68% and 74% respectively in their respective areas. Conversely, male respondents accounted for 32% in

the East Coast and 26% in the Central Coast. Moreover, a considerable proportion of respondents from both regions fell within the age bracket of 18 to 30 years old, with 91% of East Coast respondents and 77% of those from the central region falling within this demographic category. In terms of educational attainment, a majority of respondents from both regions held a Bachelor's degree, with figures standing at 54% for the East Coast and slightly higher at 57% for the Central Cost. However, there were notable exceptions, with only 1% of respondents in the East Coast remaining at the elementary school level, and an equivalent 1% holding a PhD in the central region. In summary, the predominant demographic profile of respondents indicates a prevalence of Chinese females aged between 18 and 30 years old, holding Bachelor's degrees, and originating from Malaysian public and private colleges.

Table 1

The demographic details of Chinese respondents

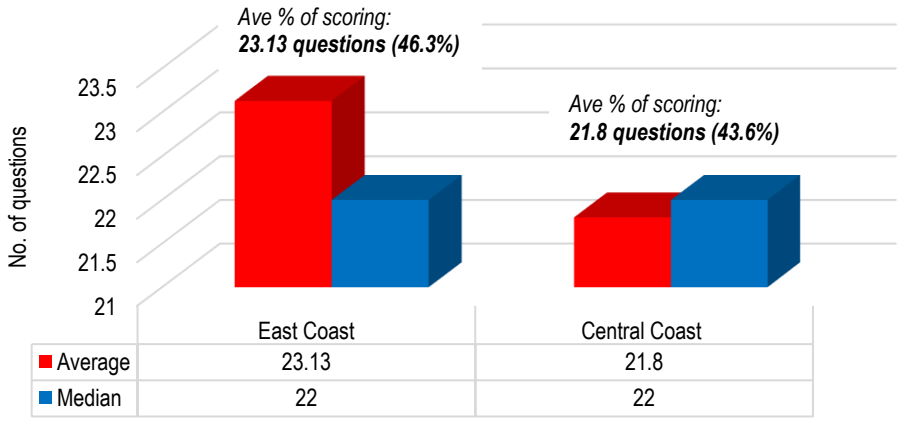
Profile	East Coast	Central
Gender		
Male	32%	26%
Female	68%	74%
Age		
18-30	91%	77%
31-40	3%	7%
41-50	1%	10%
51-60	5%	6%
Education		
Primary	1%	-
Secondary	24%	27%
Diploma	18%	12%
Bachelor	54%	57%
Master	3%	3%
PhD	-	1%

3.2 Insignificant Geographic Variation in *Biji*: Consistent Low Scores Across Regions

The questionnaire, comprising 50 questions across Section B and Section C, yielded overall unsatisfactory results in both regions, with neither achieving an average passing mark exceeding 50%. The East Coast obtained an average scoring percentage of 46.3%, equivalent to approximately 23.15 questions out of 50. Conversely, the Central Coast scored slightly lower, with an average of 43.6%, corresponding to approximately 21.8 questions out of 50. Notably, both regions exhibited identical median scores, each totalling 22.

Figure 3

Comparison of the average scoring in questionnaire of the two regions (Questions, N=50)



Certainly, the comparison between the East Coast and Central Coast reveals interesting findings regarding maximum scoring. In particular, the East Coast achieved a higher maximum score of 41 out of 50 questions, while the Central Coast reached a maximum score of 38 out of 50 questions. Specifically, two respondents from the East Coast attained a score of 41 questions, equivalent to 82% accuracy, whereas one respondent from the Central Coast achieved a score of 38 questions, reflecting a 76% accuracy rate.

Despite the presence of a few respondents who scored above 50% in both regions, their numbers were insufficient to make a significant impact. Ultimately, the overall average scoring percentages for both the East Coast (23.13%) and the Central Coast (21.8%) indicate unsatisfactory performance. Consequently, despite most respondents holding tertiary education, the knowledge level regarding the classifier *biji* in both regions can be characterised as unsatisfactory, irrespective of their educational backgrounds.

In the administered questionnaire consisting of 50 questions, as mentioned, 10 were designated as DQs. Notably, for the DQs, both the East Coast and Central Coast regions exhibited identical response patterns, with participants achieving an equal number of questions scored above and below the 50% threshold (5 each).

Furthermore, both regions demonstrated identical performance on specific actual questions. This indicates a uniform understanding of the Malay classifier *biji* among Chinese individuals, irrespective of geographic location. The uniformity in performance suggests that factors such as regional demographics, particularly the higher Malay population density on the East Coast compared to the Central Coast, do not significantly influence mastery of the Malay classifier among Chinese individuals. Therefore, it is improbable to attribute differences in performance to interactions or influences from Malay peers in the East Coast region.

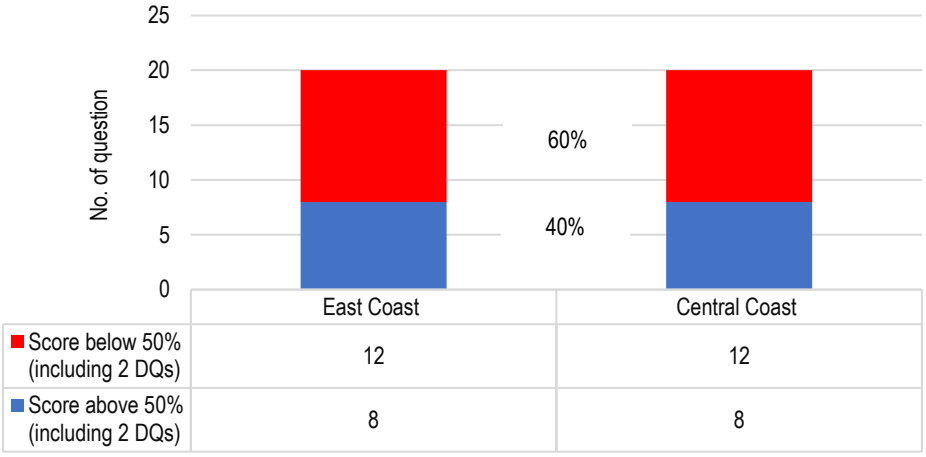
3.3 Unsatisfactory Scoring Across Both Regions for Section B - Multiple Choices

The second part of the questionnaire (Section B) comprises 20 questions. Each question is accompanied by four potential answers, necessitating respondents to select the appropriate classifier based on their interpretation of the corresponding noun (image). The section design incorporates four DQs. Among these, two questions scored above 50%: question 14 (bread [*roti*]) with classifier *buku*, and question 19 (computer [*komputer*]) with classifier *buah*. Meanwhile, two questions scored below 50%: question 9 (pin [*pin*]) with classifier *bilah*, and question 18 (thread [*benang*]) with classifier *buku*. However, this study does not delve into the details of the DQs mentioned; instead, it redirects its focus towards examining the understanding and mastery of the Malay classifier *biji* among Malaysian Chinese individuals in the East Coast and Central Coast. The same applies to Section C.

Both regions achieved the same score in the questionnaire, with the passing criterion of 50%. Notably, only 8 questions (40%), including 2 DQs, scored above 50%, while 12 questions (60%), including 2 DQs, were below the 50% threshold among participants from both regions. This distribution is illustrated in Figure 4.

Figure 4

Comparison of the scoring in multiple choices section for the 2 regions (questions, n=20)



Unexpectedly, both regions not only achieved the same score in the questionnaire, but they also exhibited congruence in specific questions, with scores above 50% and otherwise. Excluding the 4 DQs, six actual questions scored above 50%. For instance, *telur* (egg) with a success rate of 99% in both the East Coast and Central Coast. *Halkum* (Adam's apple) achieved a 57% accuracy rate in the East Coast and 50% in the Central Coast. Similarly, *kapsul* (capsule) demonstrated an 85% accuracy rate in the East Coast and 84% in the Central Coast. *Makaroni* (macaroni) had a success rate of 73% in the East Coast and 58% in the Central Coast. *Tumbung* (coconut core) was correctly identified 73% of the time in the East Coast and 61% in the Central Coast. Finally, *manik* (bead) showed a success rate of 79% in the East Coast and 76% in the Central Coast.

Conversely, ten actual questions scored below 50%. For instance, *gong* (gong), *timun* (cucumber), *kuih lepat*, *ketupat* (rice cake), *pinggan* (plate), *bendi* (okra), *cawan* (cup), *sekoci* (gadget in the sewing machine), *pisang* (banana) and *botol* (bottle) as illustrated in Table 2.

Table 2

Comparison of Results of Each Malay Classifier between East Coast and Central Coast

No	Noun	Classifier	East Coast (%)	Central Coast (%)
1	Telur	*biji*	99	99
		bentuk	0	0
		buah	1	1
		das	1	0

No	Noun	Classifier	East Coast (%)	Central Coast (%)
2	Halkum	*biji*	57	50
		bentuk	23	28
		utas	13	10
		buah	7	14
3	Gong	*butir*	28	24
		keping	20	25
		pinggan	35	40
		biji	17	11
4	Kapsul	*buah*	2	3
		ulas	10	9
		bentuk	3	4
		biji	85	84
5	Makaroni	*biji*	73	58
		bentuk	20	26
		buah	4	12
		helai	3	4
6	Timun	*tangkai*	29	33
		biji	23	14
		butir	19	22
		tongkol	29	31
7	Tumbung	*butir*	11	18
		utas	11	12
		biji	73	61
		buku	5	9
8	Kuih Lepat	*biji*	21	14
		buah	23	27
		kerat	25	29
		buku	31	30
9	Pin	*bilah*	18	12
		bentuk	20	24
		biji	40	35
		batang	22	29
10	Ketupat	*buah*	11	17
		buku	5	12
		biji	34	20
		ketul	50	51
11	Manik	*buah*	2	0
		biji	79	76
		bentuk	5	6
		untai	14	18
12	Pinggan	*utas*	27	20
		butir	28	30
		biji	16	19
		lapis	29	31
13	Bendi	*biji*	5	7
		batang	56	60
		tangkai	33	25
		buah	6	8

No	Noun	Classifier	East Coast (%)	Central Coast (%)
14	Roti	*biji*	6	3
		buku	85	87
		buah	6	6
		keping	3	4
15	Cawan	*utas*	35	32
		butir	9	12
		biji	28	29
		pasang	28	27
16	Sekoci	*bentuk*	31	36
		butir	24	24
		utas	9	11
		biji	36	29
17	Pisang	*sikat*	15	11
		biji	12	9
		batang	66	77
		tandan	7	3
18	Benang	*biji*	11	3
		buku	23	22
		lembar	38	54
		urat	28	21
19	Komputer	*bentuk*	7	8
		biji	1	6
		pasang	7	13
		buah	85	73
20	Botol	*butir*	21	21
		batang	44	50
		bilah	7	13
		biji	28	16

When comparing the scoring percentages between the East Coast and Central Coast regions, it is evident that the performance for each question closely aligns, with scores generally falling within a similar range. However, a difference emerges in the trend of questions scored above and below 50%. Among the questions scored above 50%, it is noteworthy that question no.1, *telur* (egg), attained the highest scoring percentage, with 99% on both the East Coast and Central Coast regions. This indicates that the vast majority of participants in both regions demonstrated a strong comprehension of the collocation of classifier *biji* with *telur* (egg). The high percentage suggests that this concept is well understood and likely commonly used or encountered by Malaysian Chinese individuals in both regions, reflecting its familiarity and ease of comprehension.

Meanwhile, within the same scoring range where questions scored above 50%, question no.2, *halkum* (Adam's apple), exhibited the lowest scoring percentages, with 57% on the East Coast and 50% on the Central Coast. This indicates a comparatively lower familiarity or understanding of the collocation of the classifier *biji* with *halkum* (Adam's apple) among Malaysian Chinese individuals in both regions.

On the contrary, among the questions scored below 50%, question no.13, *bendi* (okra), depicted the lowest scoring percentages, with only 5% and 7% for the East Coast and Central Coast, respectively. This indicates a consistent challenge in comprehension of the collocation of certain nouns with classifier *biji* across both regions. There was a significant challenge in comprehending *bendi* (okra) collocates with classifier *biji* for participants in both regions.

Indeed, within the same scoring range where questions scored below 50%, the highest scoring question was question no.16, *sekoci* (gadget in the sewing machine). However, the scores remained relatively low, with 36% on the East Coast and 29% on the Central Coast. This suggests that while participants of both regions performed better on this question compared to others, there is still a considerable difficulty in understanding the collocation of classifier *biji* with *sekoci* (gadget in the sewing machine).

Summarily, participants from both the East Coast and Central Coast demonstrated strong comprehension in some aspects while encountering similar difficulties in understanding the collocation of the classifier *biji* with certain specific nouns. The observed trend in scoring, particularly the differences between questions with scores above and below 50%, suggests that the questionnaire was effective in measuring participants' comprehension of the Malay classifier *biji*. The results indicate that the level of understanding among Chinese respondents was generally consistent. For example, in questions scored above 50%, such as question no.1, *telur*

(egg), both regions achieved a correct response rate of up to 99%. Conversely, in questions scored below 50%, such as question no.13, *bendi* (okra), the correct response rates were only 5% and 7%, respectively. These findings also underscore the high reliability and validity of the questionnaire.

3.4 Unsatisfactory Scoring Across Both Regions for Section C - True or False

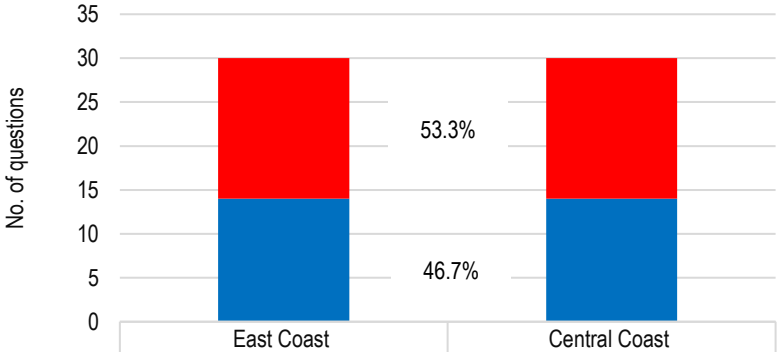
The third part of the questionnaire (Section C) comprises 30 questions. The section was structured with respondents given two possible answers: true or false. Each question was supplemented with an accompanying image to facilitate understanding of the nouns referenced in the questionnaire.

The section design incorporated six DQs. Among these, three questions scored above 50%, while the remaining three scored below 50%. The questions answered with scores above 50% included question no.24 (*cincin* [ring]), which necessitates collocation with the classifier *bentuk*; question no.35 (*mata kail* [fishhook]), also requiring the classifier *bentuk*; and question no.50 (*habuk* [dust]), typically without a classifier. Conversely, the questions answered below the passing of 50% included question no.1 (*embun* [dew]), which should be collocated with the classifier *titik*; question no.45 (*duit syiling* [coin]), requiring the classifier *keping*; and question no.47 (*jerawat* [pimple]), which should be collocated with the classifier *butir*.

Once again, both regions achieved the same score in the questionnaire. Applying a passing criterion of 50%, it is noteworthy that only 14 out of the 30 questions (46.7%), including three DQs, surpassed this threshold across both regions. Conversely, the remaining 16 questions (53.3%), including three DQs, fell short of the 50% performance benchmark across both regions. This distribution is illustrated in Figure 5.

Figure 5

Comparison of the scoring in true or false section with the passing marks of 50% for both regions (Questions, N=30)



	East Coast	Central Coast
Score below 50% (including 3 DQs)	16	16
Score above 50% (including 3 DQs)	14	14

The unexpected parallelism observed between both regions in the third part of the questionnaire (Section C) extends beyond mere equality in the distribution of scores above and below the 50% threshold. Remarkably, similar to the second part of the questionnaire (Section B), both regions demonstrate congruence not only in the quantity of questions but also in the specific questions that achieved scores both above and below this critical mark. This remarkable alignment suggests a deeper underlying uniformity in the factors influencing performance outcomes across both regions, which will be discussed later in this paper.

Excluding the 6 DQs, eleven actual questions were answered above the 50% threshold, including *grenad* (grenade) with a success rate of 75% on the East Coast and 68% on the Central Coast regions. *Benih* (seed) achieved a 62% accuracy rate on the East Coast and 72% on the Central Coast. Similarly, *tayar* (tyre) demonstrated a 59% accuracy rate on the East Coast and 50% on the Central Coast. *Kek* (cake) had a success rate of 64% on the East Coast and 62% on the Central Coast. *Petai* (petai) was correctly identified 89% on the East Coast and 86% on the Central Coast. *Durian* (durian) showed a success rate of 73% on the East Coast and 69% on the Central Coast. *Batu kerikil* (pebble) demonstrated a 75% accuracy rate on the East Coast and 73% on the Central Coast. *Kerang* (clams) had a success rate of 80% on the East Coast and 79% on the Central Coast. *Butang* (buttons) were correctly identified 89% on the East Coast and 84% on the Central Coast. Batu *zamrud* (emerald stone) was correctly identified 91% on the East Coast and 92% on the Central Coast. Finally, *kuaci* (kuaci) was correctly identified 80% on the East Coast and 82% on the Central Coast.

Conversely, thirteen actual questions fell below the 50% threshold. These include *buyung* (buyung), *kole* (kole), *bakul* (basket), *teko* (teapot), *petola* (Luffa gourd), *kusyen* (cushion), *air tempayan* (water pitcher), *dulang* (tray), *baldi* (pail), *cili* (chili), *kuali* (wok), *matahari* (sun) and *gelas* (glass) as illustrated in Table 3.

Table 3

Comparison of true or false questions for classifier biji between East Coast and Central Coast

No.	Classifier *biji* for_____?	EAST COAST	CENTRAL COAST
		Score (%)	Score (%)
21	*embun* (dew)	39	44
22	*buyung* (vase)	27	27
23	*kole* (big mug)	22	19
24	*cincin* (ring)	63	81
25	*grenad* (grenade)	75	68
26	*bakul* (basket)	11	14
27	*benih* (seed)	62	72
28	*teko* (teapot)	30	25
29	*petola* (luffa gourd)	20	15
30	*tayar* (tires)	59	50
31	*kek* (cake)	64	62
32	*petai* (stink bean)	89	86
33	*durian* (durian)	73	69
34	*kusyen* (cusion)	38	30
35	*mata kail* (fishhook)	72	73
36	*air tempayan* (water pitcher)	15	15
37	*batu kerikil* (pebble)	75	73
38	*kerang* (clams)	80	79
39	*dulang* (tray)	12	9
40	*baldi* (pail)	10	5
41	*cili* (chili)	10	12
42	*butang* (button)	89	84
43	*kuali* (wok)	15	11
44	*matahari* (sun)	42	48
45	*duit syiling* (coin)	42	49
46	*gelas* (glass)	18	18
47	*jerawat* (pimple)	13	22
48	*batu zamrud* (emerald stone)	91	92
49	*kuaci* (melon seed)	80	82
50	*habuk* (dust)	84	84

When comparing the scoring percentages between the East Coast and Central Coast regions, it is evident that the performance for each question closely aligns, with scores generally falling within a similar range. However, there is a difference emerges in the trend of questions answered above and below the 50% threshold.

Among the questions passing the 50% threshold, it is noteworthy that question no.48, *batu zamrud* (emerald stone), attained the highest scoring percentage. Specifically, it garnered 91% in the East Coast region and 92% in the Central Coast region. This indicates a notable level of proficiency among participants in both regions regarding the collocation of the classifier *biji* with *batu zamrud*. The high percentage suggests that this concept is well understood and likely commonly used or encountered by Malaysian Chinese individuals in both regions, reflecting its familiarity and ease of comprehension.

Meanwhile, within the same scoring range where questions passing the 50% threshold, question no.30, *tayar* (tyre), demonstrated the lowest scoring percentages, with 59% on the East Coast and 50% on the Central Coast. This suggests a comparatively lesser degree of familiarity or understanding regarding the collocation of the classifier *biji* with *tayar* (tyre) among Malaysian Chinese individuals in both regions.

On the contrary, among the questions that fell below the 50% threshold, question no. 40, *baldi* (pail), exhibited the lowest scoring percentages, with only 10% and 5% for the East Coast and Central Coast, respectively. This highlights a consistent challenge in comprehending the collocation of certain nouns with the classifier *biji* across both regions. There was a significant difficulty in understanding the pairing of *baldi* (pail) with the classifier *biji* for participants in both regions.

Within the same scoring range where the questions fell below the 50% threshold, question no.44, *matahari* (sun), depicted the highest scoring percentages, attaining 42% and 48% for the East Coast and Central Coast, respectively. The moderate scores for this question indicate a potential area of difficulty or ambiguity in understanding among participants in both regions regarding the classifier *biji* associated with *matahari*.

In summary, participants from both the East Coast and Central Coast demonstrated strong comprehension in some aspects while encountering similar difficulties in understanding the collocation of the classifier *biji* with certain specific nouns. The trend observed in the scoring, with significant differences between the trend of questions scored above and below the 50% threshold, suggests that the questionnaire design effectively measured participants' comprehension of Malay classifiers. This also indicates the high reliability and validity of the questionnaire.

3.5 High Proficiency in Mastering the Collocation of Classifier Biji for Typical Small and Round Objects

The set of 50 questions (including 10 DQs) produced identical results across both regions, as mentioned above, with neither region achieving an average passing mark exceeding 50%. Nevertheless, respondents from both the East Coast and Central Coast demonstrated proficient performance in mastering the classifier *biji*, with questions scored exceeding 50%, particularly evident for typical small and round objects. In total, there were 17 such questions: *telur* (egg), *halkum* (Adam's apple), *kapsul* (capsule), *makaroni* (macaroni), *tumbung* (coconut core), *manik* (bead), *grenad* (grenade), *benih* (seeds), *tayar* (tires), *kek* (cake), *petai* (stink bean), *durian* (durian), *batu kerikil* (pebble), *kerang* (clams), *butang* (button), *batu zamrud* (emerald stone), and *kuaci* (melon seeds).

As described in the dictionary used for this study, the Malay classifier *biji*, as delineated in the *Kamus Penjodoh Bilangan Daya*, serves the purpose of quantifying fruits, round objects, and small items (Anwar & Lai, 2008). Dirin (2014) further affirmed in the *Kamus Penjodoh Bilangan* that *biji* is used for gauging fruits and diminutive entities. It is not surprising that respondents predominantly fell into this category. Regarding fruits or vegetables, most of them are round or oval in shape. Examples include *tumbung* (coconut core), *durian* (durian), and *petai* (stink bean). Additionally, items like *telur* (egg), *kapsul* (capsule), *makaroni* (macaroni), *kerang* (clams), and *kek* (birthday cake) are not typically classified as fruits or vegetables, but they are edible and their shapes are considered round.

The examples of round objects and diminutive items provided in the dictionaries can be summarised into categories. For instance, seeds are exemplified by *benih* (seeds) and *kuaci* (melon seeds), *buttons* are represented by *manik* (bead) and *butang* (button), and diamonds are represented by *batu zamrud* (emerald stone). Meanwhile, objects like *halkum* (Adam's apple), *batu kerikil* (pebble), *grenad* (grenade), and *tayar* (tires), which possess round characteristics, were also included in the questionnaire. Overall, respondents from both the East Coast and Central Coast demonstrate a high proficiency in mastering the collocation of the classifier *biji* for typical small and round objects.

3.6 Challenges in Mastering the Collocation of Classifier *Biji* for Atypical Small and Round Objects

Respondents from both the East Coast and Central Coast encountered challenges and difficulties in collocating the classifier *biji* for atypical small and round objects, with questions scored falling below 50%. In total, there were 23 such questions: *gong* (gong), *timun* (cucumber), *kuih lepat, ketupat* (rice cake), *pinggan (*plate), *bendi* (okra), *cawan* (cup), *sekoci* (gadget in the sewing machine), *pisang* (banana), *botol* (bottle), *buyung* (vase), *kole* (big mug), *bakul* (basket), *teko* (teapot), *petola* (luffa gourd), *kusyen* (cushion), *air tempayan* (water pitcher), *dulang* (tray), *baldi* (pail), *cili* (chili), *kuali* (wok), *matahari* (sun), and *gelas* (glass).

Certain fruits, vegetables, or edible items are not perfectly round in shape but long and slender, such as *timun* (cucumber), *bendi* (okra), *pisang* (banana), *petola* (luffa gourd), and *cili* (chili) which would typically be assumed to be collocated with the classifier *batang*. Hence, it is unsurprising that the respondents had poor comprehension and achieved lower scores, with the lowest scores for *bendi* (okra) at 5% and 7% for the East Coast and Central Coast respectively, and for *cili* (chili) at 10% and 12% for the East Coast and Central Coast respectively.

Similarly, other edible items or Malay cakes that are sliced in shape, typically assumed to be associated with classifiers *keping* or *ketul*, such as *kuih lepat* and *ketupat* (rice cake), also exhibited lower comprehension rates, with *kuih lepat* at 21% for the East Coast and 14% for the Central Coast, and *ketupat* (rice cake) at 34% for the East Coast and 20% for the Central Coast.

The most challenging collocations for the respondents were nouns representing dishes or kitchen containers, which were cognitively unfamiliar and difficult to comprehend. These items varied in shape; some were oblate, such as *pinggan* (plate), *cawan* (cup), *kuali* (wok), and *dulang* (tray); others were hollow containers, such as *bakul* (basket), *kole* (big mug), *teko* (teapot), *buyung* (vase), and *air tempayan* (water pitcher); while others were hollow and slender, such as *gelas* (glass), *botol* (bottle), and *baldi* (pail). These items scored low, ranging from 10% to 30%, with two items even falling below 10% in both regions. For instance, *dulang* (tray) scored 12% for the East Coast and 9% for the Central Coast, while *baldi* (pail) scored 10% for the East Coast and 5% for the Central Coast.

Additionally, various gadgets and household items such as *sekoci* (gadget of a sewing machine), and objects like *kusyen* (cushion), which exhibit round characteristics, were included in the questionnaire. Musical instrument such as *gong* (gong), astronomical entities such as *matahari* (sun), also categorised by their round shape, were incorporated. Respondents noted difficulty in associating these items with the classifier *biji*, indicating a level of unfamiliarity with their classification.

3.6 The Potential Key Influential Factors

3.6.1 The Influence of Native Language and Ethnic Cultural Cognition

The familiarity with Mandarin, the participants' native language, and factors of ethnic cultural cognition may have significantly influenced their comprehension of Malay classifiers, leading to a propensity for selecting classifiers that are more closely related to their own ethnic cultural background instead of *biji*. For instance, fruits or vegetables that are long and slender in shape, such as *bendi* (okra), *cili* (chili), *pisang* (banana), *timun* (cucumber), and *petola* (luffa gourd), would typically be assumed to be associated with the Malay classifier *batang* rather than *biji*, reflecting the influence of Mandarin usage. These items, in Mandarin, such as *bendi* (okra) and *pisang* (banana), are typically collocated with the classifier 根 (gēn) or classifier 条 (tiáo). In Mandarin, 根 (gēn) is generally used to describe long and thin objects (Guo, 2002; Liu, 2013), while 条 (tiáo) is used to quantify long and thin plants or animals (Guo, 2002). As evidenced in phrases like 一根秋葵 (yī [one] gēn [CL] qiūkuí [okra] (Website of Daily China, 2022), 一根香蕉 (yī [one] gēn [CL] xiāngjiāo [banana] (Liu & Deng, 1989), and 一根辣椒 (yī [one] gēn [CL] làjiāo [chili] (Zhan et al., 2003). Similarly, *timun* (cucumber) is typically collocated with the classifier 条 (tiáo), as demonstrated in phrases like 一条黄瓜 (yī [one] tiáo [CL] huángguā [cucumber] (Liu & Deng, 1989) and 一条丝瓜 (yī [one] tiáo [CL] sīguā [luffa gourd] (Zhan et al., 2003). The Mandarin classifiers 根 (gēn) and 条 (tiáo) are typically associated with the above-mentioned fruits and vegetables due to their characteristic of being long and slender. Moreover, both 根 (gēn) and 条 (tiáo) are commonly translated as *batang* in Malay. Consequently, respondents tend to assume that the classifier *batang* is more appropriate for the mentioned fruits and vegetables compared to the classifier *biji*.

In addition, kitchen utensils and containers, such as *pinggan* (plate), *cawan* (cup), *kuali* (wok), and *dulang* (tray), which are oblate in shape, as well as hollow containers like *bakul* (basket), *kole* (large mug), *teko* (teapot), *buyung* (vase), and *air tempayan* (water pitcher), while others, such as *gelas* (glass), *botol* (bottle), and *baldi* (pail), which are hollow and slender, would typically be assumed to be associated with other classifiers rather than *biji*, reflecting the influence of Mandarin usage. These items, in Mandarin, such as items above-mentioned are typically collocated with the classifier 个 (gè). In Mandarin, 个 (gè) is generally used to quantify human or objects with no specific classifier (Guo, 2002; Liu, 2013). As evidenced in phrases like 一个盘子 (yī [one] gè [CL]pánzi [plate], 一个杯子 (yī [one] gè [CL] bēizi [cup], 一个锅 (yī [one] gè [CL] guō [wok], 一个托盘 (yī [one] gè [CL] tuōpán [tray], 一个篮子 (yī [one] gè [CL] lánzi [basket] (Liu & Deng, 1989); 一个马克杯 (yī [one] gè [CL] mǎkè bēi [mug] (Zhan et al., 2003); 一个花瓶 (yī [one] gè [CL] huāpíng [vase] (Liu & Deng, 1989); 一个水瓮 (yī [one] gè [CL] shuǐ wèng [vase], 一个玻璃杯 (yī [one] gè [CL] bōlí bēi [glass], 一个玻璃瓶 (yī [one] gè [CL] bōlípíng [bottle], and 一个水桶 (yī [one] gè [CL] shuǐtǒng [pail] (Zhan et al., 2003). Moreover, 个(gè) is commonly translated as *buah* in Malay. Consequently, respondents tend to perceive the classifier *buah* as more suitable for the aforementioned kitchen utensils and containers rather than the classifier *biji*.

On the other hand, *teko* (teapot) is typically collocated with the classifier 把(bǎ). In Mandarin, 把(bǎ) is generally used to collocated with objects that have handles (Guo, 2002; Liu, 2013). As evidenced in phrases like 一把 (yī [one] bǎ [CL] cháhú [teapot] (Liu & Deng, 1989). In terms of ethnic cultural cognition, the Malay classifier *biji* is often translated as 粒 (lì) in Mandarin, while 粒 (lì) is predominantly used for small and round objects (Liu, 2013). Thus, the respondents find it difficult to relate the Malay classifier *biji* to kitchen utensils and containers that possess oblate, hollow, and slender shapes. In summary, this observation underscores the influence of the respondents' native language and ethnic cognitive factors in the selection of classifiers other than *biji*. Thus, the respondents only managed to achieve a passing mark of no more than 30% for the questions.

3.6.2 Proficiency in Malay Language, Malay Ethnic Cognition and Its Culture

Proficiency in the Malay language is deeply intertwined with Malay ethnic cognition and culture. Language proficiency encompasses not only grammar rules but also an understanding of cultural nuances and context. Classifiers *biji* not only denote quantity but also carry cultural connotations and reflect the way Malay speakers perceive and categorise objects in their environment.

Therefore, when assessing proficiency in Malay of the Chinese respondents, it is essential to consider not just linguistic accuracy but also cultural competence. This includes understanding the social and cultural contexts in which certain words and expressions are used. Respondents who are more immersed in Malay culture may have a better grasp of these nuances, enhancing their ability to use classifiers appropriately. Among the respondents, over 50% held bachelor's degrees in both regions, with a mere 1% holding a PhD in the central region. However, educational attainment alone does not ensure mastery of the Malay language. One may possess academic qualifications but lack the necessary cultural immersion for true proficiency. According to the results of this study, the respondent with a PhD was only able to achieve a score of 27 points out of 50 points.

Furthermore, respondents demonstrated limited familiarity with Malay ethnic cognition and culture, which significantly influences language acquisition and usage. For instance, the classifier *biji* is typically translated as 粒 (lì) in Mandarin, primarily used for small, round objects like *biji*. However, *biji* also encompasses fruits and vegetables in long, slender shapes, as well as kitchen dishes or containers that are oblate, hollow, and slender. This classification poses challenges for Chinese respondents due to its divergence from their native cultural cognition. Proficiency in the Malay language extends beyond grammar rules; it entails a profound understanding of cultural cognition and its influence on linguistic expression. Thus, low proficiency in the Malay language and unfamiliarity with Malay ethnic cognition and culture could also be significant influential factors.

3.6.3 Familiarity and Usage Frequency in Malay Language

The relationship between familiarity and frequency of usage in the Malay language poses significant challenges for participants, notably affecting the proficiency of Chinese respondents in mastering Malay classifiers. This difficulty becomes particularly pronounced when individuals encounter less commonly encountered objects and vocabulary, leading to a lack of familiarity with corresponding Malay nouns and the appropriate collocation of classifiers in daily conversation. Furthermore, the limited practice and communication of these linguistic elements within daily Malay discourse exacerbate this challenge. According to Asmah Haji Omar (2014), students nowadays are not very meticulous in their use of language, particularly in terms of the selection of classifiers. The broader Malay community also demonstrates a lack of precision in using classifiers in daily communication, which indirectly affects the overall standard of classifier usage throughout the country. This trend impacts the quality of daily communication and interaction within the Malaysian community as a whole. This intertwined relationship underscores the influential factors at play in language acquisition. Consequently, unfamiliarity and low usage frequency in the Malay language impede the Chinese respondents' ability to achieve mastery of Malay classifiers.

3.6.4 Learning Environment and Exposure

Participants demonstrated varying levels of exposure to the language and opportunities for practice. Those with greater exposure, particularly through frequent interactions with Malay native speakers, are likely to exhibit higher proficiency in classifier usage. In this study, two respondents from the East Coast achieved a maximum score of 41 out of 50 questions, while one respondent from the Central Coast reached a maximum score of 38 out of 50 questions. However, due to the limited numbers, their impact on the overall findings was not significant.

3.6.5 School Curricula, Educational Experiences, and the Arbitrariness of Malay Classifiers

School curricula often lack comprehensive instruction on classifiers could be one of the potential factors. Even when a section on classifiers is included in school curricula, teachers tend to prioritise the typical characteristics while neglecting some atypical features. For instance, the Malay classifier *biji* is generally defined in school curricula as being used for fruits, round objects, and small items. As a result, nouns with typical round shapes, such as eggs, balls, and apples, are commonly paired with this classifier, whereas atypical examples like vases, trays, and bottles are often omitted. This omission can be attributed to the constraints of time and the extensive scope of the curriculum. Consequently, students' understanding and cognitive development regarding classifiers are restricted to the content covered in school. Additionally, the numeral classifier system in Malay is conceptually complex, with a high degree of arbitrariness in how classifiers are applied to nouns (Dirin, 2000; Othman, 2004).

4.0 CONCLUSION

This study demonstrates that the geographic location of East Coast Chinese individuals does not significantly contribute to a deeper understanding of Malay linguistic nuances and cultural practices among Chinese residents in the region. Despite the East Coast's higher Malay population and its purported greater impact on Malay language and cultural mastery among Chinese respondents, the overall performance in both regions remains unsatisfactory, with questionnaire scores falling below 50%. The study also highlights that both regions not only attained identical scores on the questionnaire but also demonstrated alignment in responses to specific questions. This suggests a consistent understanding of the Malay classifier *biji* among Chinese individuals across diverse geographic locations. Additionally, it indicates that the questionnaire effectively gauged participants' comprehension of Malay classifiers, underscoring its high reliability and validity.

The findings reveal that respondents displayed better comprehension and achieved higher scores in identifying the typical characteristics of the classifier *biji*, which denotes small and round fruits or objects. However, they faced significant challenges in recognising and applying its atypical characteristics, such as referring to fruits and vegetables in long, slender shapes, as well as kitchen dishes or containers that are oblate, hollow, and slender. Based on the empirical evidence, key influential factors identified include the influence of the native language and ethnic cultural cognition, low proficiency in the Malay language coupled with unfamiliarity with Malay ethnic cognition and culture, familiarity with and frequency of usage of the Malay language, the learning environment and exposure, and finally, school curricula and educational experiences.

This study is to compare the proficiency level of Malaysian Chinese individuals from both the East Coast and Central Coast regions in mastering the Malay classifier *biji*, as well as to delineate the collocation between classifier *biji* with nouns. The findings offer guidance for second language acquisition and pedagogy, curriculum syllabus design, and for enhancing understanding of Malaysia's sociolinguistic landscape. Consequently, they facilitate the formulation of tailored strategies to tackle linguistic challenges. Moreover, these insights benefit educators, policymakers, and students alike. It is recommended that future research broaden its scope to encompass a comparative analysis between the Chinese ethnic group and native Malay speakers. Such an expanded investigation would contribute to the advancement of comparative linguistics theory and inform pedagogical practices in teaching Malay and Chinese as second or foreign languages. Moreover, it would foster improved communication and comprehension within Malaysia's multiracial, multilingual milieu, thereby facilitating the development of additional strategies to address challenges, particularly as classifiers gradually fade from the linguistic repertoire of younger generations.

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CONFLICT OF INTEREST

The authors declare no conflicts of interest.

AUTHOR(S) CONTRIBUTION

Ng Chwee Fang (Document analysis; Investigation; Questionnaire; Data analysis: Writing)

Syafila Kamaruddin (Data analysis - interpretation of the data: Questionnaire; Material searching)

REFERENCES

Aikhenvald, A.Y. (2000). *Classifier: A typology of noun categorization devices*. Oxford University Press.

Allan, K. (1977). Classifiers. *Language*, *53*(2), 285-311. https://doi.org/10.1353/lan.1977.0043

Anwar, R., & Lai, C. (2008). *Kamus penjodoh bilangan daya*. Penerbit Minda (M) Sdn Bhd.

Asmah Haji Omar. (1972). Numeral classifiers in Malay and Iban. *Anthropological Linguistics*, *14*(3), 87–96.

Asmah Haji Omar. (2009). *Nahu Melayu mutakhir* (5th ed.). Dewan Bahasa dan Pustaka.

Asmah Haji Omar. (2014). *Nahu Melayu mutakhir Edisi Kelima.* Kuala Lumpur: Dewan Bahasa dan Pustaka.

Azarudin, A., Wan Ahmad, W. H. S., & Ramly, A. F. (2021). Peranan Kuala Terengganu sebagai pusat kegiatan agama komuniti Cina. *Journal of Islamic Social Sciences and Humanities*, *24*(1), 137-154. https://doi.org/10.33102/abqari.vol24no1.393

Chung, S. F. (2010). Numeral classifier buah in Malay: A corpus-based study. *Language and Linguistics*, *11*(3), 553-577.

Conklin, N. F. (1981). *The semantics and syntax in numeral classification in Tai and Austronesian*. [Doctoral dissertation, University of Michigan].

Croft, W., & Cruse, D. A. (2004). *Cognitive linguistics*. Cambridge University Press.

Dirin, Z. (2000). *Kamus penjodoh bilangan untuk KBSR*. Fajar Bakti.

Dirin, Z. (2014). *Kamus penjodoh bilangan [Dictionary of Classifiers]*. Oxford Fajar Sdn Bhd.

Guo, X. (2002). *Xiandai hanyu liangci yongfa cidian [Dictionary of modern Chinese classifiers usage]*. Yuwen Chubanshe.

Hsu, H. Y., & Wang, S. (2017). Integrating technology: Using Google Forms to collect and analyze data. *Science Scope*, *April/May 2017*, 64-67. https://doi.org/10.2505/4/ss17_040_08_64

Huck, S.W. (2007). *Reading statistics and research.* Allyn & Bacon.

Lai, K. J. (2019). *The analysis of Malaysia's secondary school Chinese students error made in quantifier "tiao" and "gen"*. [Master's thesis, Central China Normal University].

Lakoff, G. (1987). The death of dead metaphor. *Metaphor and Symbol*, *2*(2), 143-147. https://doi.org/10.1207/s15327868ms0202_5

Lee, J. F. (2009a). Qian tan Hanyu Malaiyu liangci de yitong. *Wenjiao Ziliao*, 36-37.

Lee, J. F. (2009b). Hanyu Malaiyu liangci bijiao yanjiu. *Kejiao Wenhui*, 262-264.

Liu, X. M., & Deng C. M. (1989). *A dictionary of collocation of nouns and measure words in modern Chinese*. Zhejiang Jiaoyu Chubanshe.

Liu, Z. P. (2013). *Hanyu liangci dacidian [Chinese classifiers dictionary]*. Shanghai Cishu Chubanshe.

Low, P. H. (2014). *The corresponding features and teaching and research of Chinese-Malay measure words*. [Master's thesis, University Xiamen].

Marnita, R. (1996). *Classifiers in Minangkabau*. [Master's thesis, Australian National University].

Mohd Nor, M. R., & Hasan, H. (2010). Kebolehan bahasa masyarakat Cina Peranakan Kelantan. *Jurnal Usuluddin*, *31*(2010), 115–133. https://ejournal.um.edu.my/index.php/JUD/article/view/7382

Mohd Shahrul Imran Lim Abdullah. (2013). *Pengekalan dan perubahan identiti komuniti Cina Peranakan Kelantan: Satu kajian kes di Kampung Pasir Parit, Pasir Mas, Kelantan*. [Master's thesis, Universiti Sains Malaysia].

Muhammad Faris Abdul Fatah & Muhamad Faisal Ashaari. (2020). Assimilation of Chinese community and Malays in Kelantan. *BITARA International Journal of Civilizational Studies and Human Sciences*, *3*(2), 186-198.

Ng, Chwee Fang. (2024). A comparative analysis of the Chinese classifier "粒 lì" and the Malay classifier "biji" from the perspective of typology. *Shijie Huawen Jiaoxue*, *12*, 197-241. https://xianxiao.ssap.com.cn/catalog/7194686.html

Ng, Chwee Fang, Awang, Sariya & Yap, Ngee Thai (2024). A dictionary-based comparative study of the Chinese "个 (gè)" and the Malay "buah" numeral classifiers. *Issues in Language Studies*, *13*(1), 1-21. https://doi.org/10.33736/ils.5658.2024

Othman, B. (2004). *Penjodoh bilangan [Classifiers]*. Aneka Publication & Distributors Sdn. Bhd.

Richards, J. C., Platt, J., & Weber, H. (1985). *Longman dictionary of applied linguistics.* Longman Group Limited.

Saalbach, H., & Imai, M. (2005). Do classifier categories structure our concepts. *Proceedings of the 26th Annual Conference of the Cognitive Science Society,* 1901-1906.

Schmitt, B. H., & Zhang, S. (1998). Language structure and categorization: A study of classifiers in consumer cognition, judgment, and choice. *Journal of Consumer Research*, *25*(2), 108-122. https://doi.org/10.1086/209530

Sew, J. W. (2020). Teaching noun classifiers in Malay as a foreign language: Applying the translanguaging method. *Electronic Journal of Foreign Language Teaching*, *17*(2), 505-521. https://doi.org/10.56040/swjw1745

Taherdoost, H. (2016). Validity and reliability of the research instrument; How to test the validation of a questionnaire/survey in a research. *International Journal of Academic Research in Management (IJARM),* *5*(3), 28-36. https://doi.org/10.2139/ssrn.3205040

Tai, J., & Wang, L. (1990). A semantic study of the classifier Tiao. *Journal of the Chinese Language Teachers Association*, *25*(1), 35-56.

Teo, Ai Min. (2003). Penjodoh bilangan bahasa Melayu dan bahasa Cina: Satu analisis kontrastif dan analisis kesilapan. [Master's thesis, Universiti Malaya].

Teo, Kok Siong. (2005). Asimilasi dialek Kelantan Melayu dan dialek Kelantan Thai dalam bahasa Cina peranakan Kelantan. *Jurnal Bahasa, 5*(1), 68-82.

Yap, J. (2020, June 15). *Contohi Cina Kelantan*. Sinar Harian. https://www.sinarharian.com.my/article/87817/contohi-cina-kelantan

Yeoh, Lee Ling. (2019). *The research of Malaysia secondary school Chinese students error made in measure word "ke" and "li"*. [Master's thesis, Central China Normal University].

Zhan, Weidong., Guo, Rui. & Chen, Yirong. (2003). *The CCL corpus of Chinese texts*. Center for Chinese Linguistics of Peking University. http://ccl.pku.edu.cn:8080/ccl_corpus