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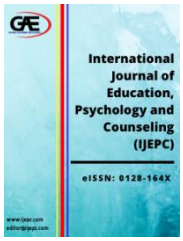

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INVESTIGATING MALAY LANGUAGE ACQUISITION AMONG IIUM INTERNATIONAL STUDENTS: A PROCESSABILITY THEORY ANALYSIS

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Abstract:

This study investigates Malay morphosyntactic acquisition among four international undergraduate students at the International Islamic University Malaysia (IIUM) using Processability Theory (PT). Adopting a qualitative multiple case study design, the study collected data through semi-structured interviews and flashcard elicitation tasks targeting vocabulary, derivational morphology, phrasal constructions, and *yang*-clause production. Two research questions guided the study: (1) what lexical and morphological forms do international students acquire after completing a foundational Malay language course? and (2) which PT developmental stages have these learners reached in Malay? Lexical analysis showed variation across participants. Participant A produced the highest output, with 70 types and 148 tokens, followed by Participant D with 43 types and 60 tokens, Participant C with 34 types and 67 tokens, and Participant B with 31 types and 63 tokens. Morphological analysis showed that all participants used the derivational suffix *-an* across more than one verb stem, satisfying the emergence criterion for Category Procedure. All participants also produced verb phrase and noun phrase constructions consistent with Phrasal Procedure. Although all four participants attempted *yang*-clause constructions, none produced multiple independent instances with sufficient lexical variation. Phrasal Procedure is therefore the highest PT developmental stage reached by the learners. Participant A's stronger performance appears to be linked to regular informal interaction with Malay-speaking peers, suggesting that input outside the classroom can support faster development. The findings indicate that one semester of formal instruction can help adult learners progress through the lower

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and intermediate PT stages in Malay, but productive use of higher-level syntactic structures requires more regular and extended exposure. The study extends PT research to adult Malay foreign language acquisition and offers pedagogical insights for university-level Malay language programmes.

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Keyword:

Adult Language Acquisition, Developmental Stages, Malay as Foreign Language, Morphosyntax, Processability Theory

Introduction

Malaysia provides a rich multilingual environment for language learning. Malay functions as the national and official language, while English, Mandarin, Tamil, and various regional languages continue to be used across different communities and social domains (Hashim, 2024). For international students in Malaysian universities, learning Malay is therefore not just a graduation requirement. It is also important for everyday interaction, social adjustment, and participation in local community life. At the national level, the continued emphasis on *Memartabatkan Bahasa Malaysia dan Memperkukuh Bahasa Inggeris* (MBMMBI), now situated within the broader MADANI agenda, reflects Malaysia's effort to maintain the status of Malay while also recognising the role of English in education and global communication (Hashim et al., 2024). Yet, despite this policy emphasis, the acquisition of Malay by adult foreign language learners remains relatively under-researched in applied linguistics. In particular, there is still limited empirical work on how non-native adult learners develop Malay morphosyntax in formal instructional contexts (Ngadiron et al., 2020).

The International Islamic University Malaysia (IIUM) offers a relevant context for examining this issue. Although English is the main medium of instruction at the university, international students are required to complete *Bahasa Melayu 1 untuk Antarabangsa*, hereafter referred to as LM, before graduation. This course creates a useful setting for studying early Malay development because many learners enter the class with little or no prior exposure to the language. They also receive instruction within a relatively similar institutional framework. Such a context makes it possible to observe how adult learners begin to develop basic Malay structures from a comparable starting point. Nevertheless, classroom exposure alone may not be sufficient to support communicative development. Shawai et al. (2022) reported that international students often face difficulties when interacting with local communities, particularly when confidence in English is limited. These challenges may reduce their

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opportunities to use Malay naturally outside the classroom, even though such interaction is important for language development.

Research on Malay language acquisition has mainly focused on children's first- or second-language development. Studies by Mohamed Salleh and colleagues (Mohamed Salleh et al., 2019; 2021; 2023) have shown that Processability Theory (henceforth PT) can be used to examine Malay morphological acquisition. However, this body of work has focused on bilingual children. Adult learners acquire Malay under different conditions. They may have stronger analytical skills, but they may also face greater difficulty in areas such as pronunciation and implicit language processing (Haryono & Manggopa, 2024). The present paper addresses this gap by applying PT to adult learners of Malay in an instructed setting.

Processability Theory (PT) was first developed by Pienemann (1998) and later refined in subsequent work, including Di Biase et al. (2015) and Pienemann and Lenzing (2025). The theory proposes that language development follows a hierarchy of grammatical processing procedures. Each stage depends on the processing procedures that have become available at the previous stage. Rather than assessing learners mainly against native-speaker accuracy, PT focuses on whether learners have developed the processing ability required to produce specific grammatical structures during real-time communication. This makes PT a useful framework for examining developmental progress among adult learners in instructed settings.

The present study is guided by two research questions. First, what lexical and morphological forms do international students acquire after completing one foundational Malay language course? Second, which developmental stages, as outlined in PT, have these learners reached in Malay? Through detailed case analysis, this study aims to provide empirical evidence on adult Malay acquisition and to offer insights for the teaching of Malay at the university level.

Literature Review

Malay As a Second or Foreign Language

Although Malay has a relatively straightforward phonological system, learning it as a second or foreign language involves some challenges. Jeniri (2005, as cited in Che Mee, 2020) observed that Malay is easy to learn at the beginning but quite difficult to master, a distinction confirmed by empirical studies across a range of learner populations. Ngadiron et al. (2020) investigated the difficulties international students encounter in Malaysian tertiary institutions and identified L1 (first language) interference as the most prominent constraint. Students from different language backgrounds struggled with phonemic contrasts that are absent in their first languages; a Chinese-background student, for example, had difficulties with the minimal pair's /b/–/p/ and /d/–/t/. Other than pronunciation, attitudinal factors, and monocultural peer-grouping, the opportunities for authentic Malay interaction were found to be restricted, limiting acquisition to what classroom hours alone could provide.

Another group of challenges emerges for local non-native speakers. Othman and Nor Shaid (2021) examined Chinese teachers in national-type Chinese schools and documented how learners' strong first-language dominance led to direct translation errors in writing and to impede fluent oral production. Students showed low motivation, linked to the pre-conceived notion that Malay was difficult and irrelevant to their daily communication needs. The primary

reliance on the first language as the main classroom medium, even during Malay lessons, is only contributing to further limited exposure to authentic Malay use.

Nor Shaid et al. (2022) documented comparable constraints among Orang Asli Temiar students who learn Malay as a second language in all-Orang Asli schools. The study found that an examination-oriented education system treated Malay as an academic subject rather than a communicative tool. Students developed test-oriented knowledge, though they struggled to transfer language skills into conversational contexts, depending heavily on teacher scaffolding even during peer interaction. Natural acquisition was further curtailed by limited exposure to Malay outside formal instruction. These outcomes converge with Shawai et al. (2022), who studied international students at *Universiti Sultan Zainal Abidin* (UNISZA) and *Universiti Malaysia Terengganu* (UMT). They found that barriers in communication between international students and local peers, which arose from local students limited English confidence, demotivated international learners from using Malay. Most respondents also found traditional Malay instruction methods inadequate and preferred technology-enhanced approaches.

Collectively, these studies identify three recurring constraints on Malay acquisition: L1 interference, limited quantity and quality of input outside the classroom, and insufficient communicative practice in formal instruction. All three factors apply directly to the IIUM international student population and inform the present study's expectation that classroom instruction alone may produce only partial developmental progress through the PT hierarchy.

Language Acquisition in Adulthood

The role of age in second language acquisition has been widely debated. The Critical Period Hypothesis (CPH) proposes that language acquisition is biologically constrained, with optimal learning occurring before puberty (Lenneberg, 1967). Some researchers contend that adult learners may not be able to attain native-like proficiency since the neural plasticity required for phonological and syntactic development diminishes after the critical period. However, this deterministic position has been challenged on both empirical and theoretical grounds.

Bialystok (1997) argued that apparent age effects are intensified by variables such as input quantity, learning context, and assessment type. The author found that cumulative exposure to the second language, rather than age of onset alone, better predicted grammatical proficiency, particularly in morphological and syntactic domains where analytical skill is advantageous. Haryono and Manggopa (2024) reviewed the age and SLA debate and found that while adult learners might face challenges in areas involving implicit procedural knowledge, such as phonological acquisition, they possess analytical and metalinguistic advantages that facilitate explicit grammar learning. Adults can consciously examine grammatical rules and apply them strategically, an ability that young children do not yet possess.

Dąbrowska et al. (2020) provided empirical support for the potential of adult learners. Their study demonstrated that a substantial proportion of adult L2 learners performed within the native-speaker range on grammatical proficiency tasks. This questions the assumption that adult acquisition is inherently deficient. Adults showed particular strength in functional morphology, the domain most directly targeted by PT stages 2 and 3. De Houwer (2021) added an important moderating variable: input quantity and quality. In cases where the target language receives limited input, as in the case of international students relying primarily on a weekly

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language course, development typically lags behind that of learners with richer naturalistic exposure. This input-driven perspective is directly relevant to the present study, where extracurricular Malay use differed considerably between the participants.

Processability Theory

Processability Theory (PT) was introduced by Pienemann (1998) as a psycholinguistic model of second language development. It proposes that learners acquire grammatical structures in a predictable implicational order determined by the processing procedures they have automatised in real-time language output. Rather than measuring accuracy against native-speaker norms, PT examines whether learners have developed the underlying procedural capacity to handle increasingly complex grammatical operations. The theory proposes that each stage implies all preceding stages: a learner demonstrating phrasal procedure must have already acquired category-level processing.

Table 1 presents the English PT hierarchy, refined by Di Biase et al. (2015) based on Pienemann (1998). The hierarchy begins with Lemma Access, where learners produce isolated words without grammatical marking. At the Category Procedure stage, learners begin to add morphological information to words, such as past-tense *-ed* or plural *-s*. The Phrasal Procedure stage involves combining grammatical information within phrases, including noun phrases and verb phrases. The Sentence Procedure stage involves grammatical relations across phrases, such as subject-verb agreement.

Table 1: Developmental Stage Hypothesis for English Morphology (Di Biase et al., 2015; After Pienemann, 1998, 2005)

PT Stage	Processing Procedure	Structure	Example
4. Sentence Procedure	Sentence Procedure	SV agreement: 3rd person sg -s	Peter loves rice.
3. Phrasal Procedure	NP Procedure VP Procedure	Phrasal plural marking AUX + V (have + V-ed, MOD + V, be + V-ing)	these girls, three black cats, many cats they have jumped, you can go, I am going
2. Category Procedure	Category Procedure	past -ed, plural -s, possessive ‘s, verb -ing	Mary jumped, my brothers, Mary’s car, he eating
1. Lemma Access	Lemma Access	Single words, formulas	station, here, my name is Pim

Source: Di Biase et al. (2015) after Pienemann (1998, 2005)

The PT framework has been applied across several typologically different languages, including Arabic (Mansouri, 2005), Japanese (Kawaguchi, 2015), Italian (Di Biase & Bettoni, 2015), and Spanish (Bonilla, 2015). This cross-linguistic validation supports PT’s claim that it describes universal processing parameters rather than English-specific developmental sequences. The

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multi-language evidence base makes PT a proven principled framework for examining Malay, which differs structurally from Indo-European languages in several respects.

Processability Theory Applied to Malay

Mohamed Salleh et al. (2021) proposed a PT hierarchy adapted to Malay morphology. Their work was guided by Bettoni and Di Biase's (2015) cross-linguistic framework and earlier studies on Malay first-language acquisition. Malay differs from English in an important way: it does not mark tense, aspect, or subject-number agreement morphologically (Mohamed Salleh et al., 2021). For this reason, the Sentence Procedure stage cannot be identified through subject-verb agreement, as in English. In Malay, this stage is instead represented through the use of the object-topicalising relative clause particle *yang*, as in *Yang ini, saya suka* ('This one, I like'), which reflects interphrasal processing at the sentence level.

The Malay PT hierarchy in Table 2 begins with Word or Lemma Access, where learners produce single words and formulaic expressions without morphological marking. Category Procedure is represented through the derivational suffix *-an*, which changes the grammatical category of a word by nominalising verbs, as in *makan* ('eat') → *makanan* ('food') and *main* ('play') → *mainan* ('toy'). It is also represented through reduplication to mark plurality, as in *kucing* ('cat') → *kucing-kucing* ('cats'). Phrasal Procedure includes both NP and VP unification. NP unification is shown through numeral classifier constructions such as *dua ekor kucing* ('two cats') and quantifier-noun combinations such as *banyak kucing* ('many cats'). VP unification is shown through auxiliary-verb sequences such as *nak makan* ('want to eat') and *boleh main* ('can play').

Table 2: Developmental Stage Hypothesis for Malay Morphology (Based on Mohamed Salleh et al., 2021)

Processing Procedure	Linguistic Structure	Example
4. Sentence Procedure	Interphrasal structure Relative clauses (topicalisation)	*yang*-clause: *Yang ini, saya suka* (REL this, I like — this one I like')
3. Phrasal Procedure (NP)	Phrasal morphemes — NP unification	Numeral classifiers: *dua ekor kucing hitam* ('two black cats') Plural quantifier: *banyak kucing* ('many cats')
3. Phrasal Procedure (VP)	Phrasal morphemes — VP unification	V + V: *nak makan* ('want to eat') AUX + V: *boleh main* ('can play')
2. Category Procedure	Lexical morphemes	Suffix -an: *makan* (V) → *makanan* (N); *main* (V) → *mainan* (N) Reduplication: *kucing* → *kucing-kucing* ('cats')
1. Word/Lemma Access	Words, formulas	*nak* ('want'), *kucing* ('cat'), *apa khabar*? ('how are you?')

Source: Adapted from Mohamed Salleh et al. (2021)

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The Emergence Criterion and the Teachability Hypothesis

Assigning learners to PT stages requires a clear criterion for deciding when a structure has emerged. Pallotti (2007) proposed the emergence criterion for this purpose. Under this criterion, a structure is considered to have emerged only when the learner shows both formal variation and lexical variation. Formal variation means that the learner produces the target morpheme alongside its unmarked form, while lexical variation means that the morpheme is applied through different lexical items in a productive way. A single instance of a structure, especially in an elicited task, may reflect imitation or formulaic recall rather than real procedural development. For this reason, the emergence criterion is more cautious than raw accuracy measures. It is especially useful in elicitation-based studies, where prompts may lead learners to produce target forms without necessarily showing underlying competence.

The emergence criterion is applied consistently throughout the present analysis. For the Category Procedure stage, the *-an* suffix is considered productively acquired only when applied to multiple verb stems with clear semantic regularity. For the Sentence Procedure stage, *yang*-clause production must be spontaneous and must exhibit interphrasal structure instead of isolated constructions.

Pienemann and Lenzing (2025) argue that instruction cannot override constraints in cognitive processing. In other words, learners cannot be taught structures that are beyond their current developmental stage. However, instruction can support progress through stages that are developmentally within reach via providing targeted input and practice. This is known as the teachability hypothesis, and it has important implications for curriculum design. Effective instruction should identify the learner's current PT stage and provide input at the next attainable level. The LM course focuses on vocabulary and basic phrase patterns, which correspond to Lemma Access and early Category Procedure. The present study also investigates whether the course also supports progression to the Phrasal Procedure level.

Methodology

Research Design

This study adopted a qualitative multiple case study design (Yin, 2018) to examine Malay language development among international undergraduate students at IIUM. This design allows close analysis of each participant's language development while also allowing comparisons across cases. Data were collected through semi-structured interviews and flashcard elicitation tasks designed to target selected PT structures in nominal, verbal, and syntactic morphology. A small number of participants is appropriate for this design. Processability Theory research has traditionally relied on single cases or small samples, since its aim is to trace the developmental profile of individual learners in detail rather than to generalise across a population. The foundational Malay PT studies that inform the present analysis were themselves single-child case studies (Mohamed Salleh et al., 2019, 2021, 2023). Following this tradition, the study prioritises depth of developmental description over breadth of sample, and its findings are presented as exploratory rather than representative.

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Participants

Four international undergraduate students, labelled Participants A to D, were selected through purposive sampling. They were selected based on three criteria: they were international students at IIUM, they had no prior formal or informal exposure to Malay before entering the university, and they had completed one foundational Malay course, LM. The participants came from different linguistic and national backgrounds. This diversity leads to some variations in their developmental patterns. Table 3 summarises their profiles.

Table 3: Participant Profiles and Malay Exposure Background

Participant	Gender	Nationality	L1 Background	Malay Exposure Beyond Classroom
A	Female	Sri Lankan	Tamil / English	Extensive: regular interaction with Malay-speaking friends; uses Malay in informal daily communication; demonstrated awareness of colloquial registers including the emphatic particle *-lah*
B	Female	Pakistani	Urdu / English	Minimal: restricted to classroom instruction only; expressed difficulty constructing sentences beyond formulaic patterns
C	Male	Gambian	Mandinka / English	Minimal: limited to classroom instruction; actively sought clarification during interview; relied on short, cautious responses
D	Female	Indian	Hindi / English	Minimal: restricted to classroom instruction; produced brief responses with frequent self-correction; used Malay metalinguistic labels (*Melayu, Inggeris*)

The main difference among the participants was their exposure to Malay outside the classroom. Participant A reported using Malay with local friends in informal settings. She also used colloquial forms that were not part of the LM course, such as the emphatic particle *-lah* in *bolehlah* and *ikutlah*. She described Malay as her third language, after Tamil and English, which suggests that she already had experience learning and using more than one language. In contrast, the other three participants reported using Malay only in relation to the LM course. This contrast allows the study to compare learners with classroom-only exposure and a learner with both classroom input and informal interaction.

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Data Collection

Data collection comprised two phases within a single interview session. Phase one involved semi-structured questions in English to establish rapport, followed by Malay-language interaction to establish baseline competence. Phase two employed five flashcards systematically targeting PT stages: (1) action identification to elicit *makan* 'eat' (Lemma Access); (2) derivational morphology from *makan* → *makanan* 'food' (Category Procedure); (3) transfer of the same derivational rule to *main* → *mainan* 'toy' (Category Procedure — lexical variation); (4) numeral classifier production *dua ekor kucing* 'two cats' (Phrasal Procedure, NP); and (5) relative clause construction using *yang* to express food preference (Sentence Procedure).

General Malay-language questions supplemented the flashcard tasks: *Apa khabar?* ('How are you?'), *Boleh berikan tiga perkataan yang awak tahu dalam bahasa Melayu* ('Can you give three words you know in Malay?'), and *Apa makanan kegemaran awak?* ('What is your favourite food?').

This combination of semi-structured interviews and structured elicitation is well suited to Processability Theory analysis. Semi-structured interviews allow learners to produce language with some spontaneity while keeping the session focused on relevant communicative tasks (Ruslin et al., 2022). The flashcard tasks complement this by deliberately targeting the specific structures the emergence criterion requires, since free conversation may not reliably prompt forms such as numeral classifiers or *yang*-clauses. Together, the two-methods balance naturalness with the structural coverage needed to evaluate PT stage attainment. All interviews were audio-recorded and transcribed orthographically following standard Malay conventions.

Data Analysis

Lexical analysis categorised all Malay tokens produced by each participant into word classes (nouns, verbs, adjectives, adverbs, and others) and calculated type and token counts. Morphological analysis applied Pallotti's (2007) emergence criterion to determine PT stage attainment. Structures were coded as emergent only when both formal and lexical variation criteria were met. Concordance analysis (Sinclair, 1991) was used to examine co-occurrence structures and verify whether phrasal constructions represented productive unification or simply formulaic recall.

Ethical Considerations

Informed consent was obtained from all participants prior to data collection. Participants were briefed on the research purpose, their right to withdraw without consequence, and the confidentiality measures applied. All participants were assigned anonymous codes (A–D). The study was conducted in accordance with institutional ethical guidelines for research involving human participants.

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Results And Discussion

Lexical Forms Acquired

To address the first research question, all Malay lexical items produced during the interviews were categorised by word class and counted as types (distinct vocabulary items) and tokens (total word instances). Table 4 presents the lexical distribution by the participants.

Table 4: Lexical Production by Participant and Word Class

Lexical Category	Participant A	Participant B	Participant C	Participant D
Nouns	23	14	15	19
Verbs	10	3	5	8
Adjectives	9	5	5	10
Adverbs	5	1	1	0
Others (particles, conjunctions, etc.)	23	8	8	6
Total Types	**70**	**31**	**34**	**43**
Total Tokens	**148**	**63**	**67**	**60**

Participant B showed the least lexical variety overall, producing 31 types and 63 tokens. Her output was mainly limited to classroom-taught nouns and a small number of high-frequency verbs. Across the interview, she produced only three verb types: *makan* (‘eat’), *suka* (‘like’), and one form that emerged with interviewer guidance. This pattern is consistent with her comment that the LM course gave only limited practice in sentence construction. Most of her responses were single words or short formulaic phrases. Her use of adjectives was also limited but accurate, as seen in her production of *mania (*sweet’) in an appropriate context. Overall, her output suggests a vocabulary largely based on memorised classroom items, with limited use of these words in productive sentence structures.

Participant C produced 34 types and 67 tokens, slightly higher than Participant B on both measures. His vocabulary reflected everyday communicative needs, including nouns such as *khabar* (‘news’), *orang* (‘people’), and *teh ais lemon* (‘iced lemon tea’), and verbs such as *mahu* (‘want’), *makan* (‘eat’), and *minum* (‘drink’). What stood out in Participant C’s data was his active engagement during the interview. He often asked for clarification when he encountered unfamiliar terms and checked his guesses before producing a form. This suggests that he was using his analytical skills as an adult learner. Even so, his output remained limited. His most complex utterance was *saya mahu makan nasi lemak* (I want to eat nasi lemak’), while most of his responses consisted of single words or short clauses.

Participant D produced the highest number of types among the three classroom-only participants, with 43 types, but the fewest tokens overall, with 60 tokens. This suggests that she tended to give brief and controlled responses, possibly to avoid making errors. Compared with Participants B and C, she used a wider range of nouns, including food-related terms,

pronouns, and metalinguistic labels such as *Melayu* (‘Malay’) and *Inggeris* (‘English’). She also produced eight different verb types, the second highest among the participants. Her adjective use was also relatively varied, including forms such as *sejuk* (‘cold’) and *sedap* (‘delicious’), which suggests some ability to express meaning beyond basic naming. When she was unsure, she used the formula *maaf* (‘sorry’), showing awareness of interactional norms and a tendency to prioritise accuracy over fluency.

Participant A’s lexical profile was clearly different from the other three participants. She produced 70 types and 148 tokens, which was more than twice the output of the next highest participant in terms of total tokens. Her type-token ratio was lower than the others (A: 0.47; B: 0.49; C: 0.51; D: 0.72), suggesting that she repeated familiar words more often across longer stretches of speech. This pattern is more consistent with fluency and extended production than with cautious, minimal responses.

In addition to producing more language, Participant A also showed more developed lexical and grammatical awareness. She used near-synonyms appropriately, including the distinction between *ramai* (‘many’, for human or animate referents) and *banyak* (‘many’, for non-human or inanimate referents). She also used both *tengah* and *sedang* as progressive aspect markers in separate utterances. Her ability to ask follow-up questions in Malay, such as *ar saya, nak pilih ke?* (‘should I choose?’), further shows that she could use Malay beyond one-word answers. She also showed awareness of register when she contrasted her informal Malay ability with her limitations in formal Malay: *saya punya bahasa Melayu dalam formal tu saya tak pandai sangat* (‘my Malay in formal contexts is not very good’).

Participant A’s stronger performance can be explained through three theoretical perspectives. From the perspective of Krashen’s (1985) input hypothesis, her regular interaction with Malay-speaking friends gave her access to comprehensible input beyond what was available in the classroom. From Long’s (1996) interaction hypothesis, these conversations may have involved clarification, correction, and confirmation, which helped her notice how Malay forms are used in context. From Tomasello’s (2003) usage-based perspective, repeated use of Malay in meaningful interaction may have strengthened her familiarity with common Malay sentence patterns and allowed her to produce them more flexibly.

Even so, Participant A’s performance still had clear limits. Her formal Malay remained weak, and she did not satisfy the emergence criterion for Sentence Procedure. This suggests that informal exposure can support progress through the lower and intermediate PT stages, but it cannot fully replace targeted instruction and more regular practice at higher levels.

Morphological Forms Acquired

Morphological analysis examined how participants used word-formation patterns beyond simple vocabulary recall. The most prominent morphological feature in the data was the derivational suffix *-an*, which nominalises Malay verbs. All four participants used this suffix to change *makan* (‘eat’) into *makanan* (‘food’) and *main* (‘play’) into *mainan* (‘toy’). Participant D also produced *minuman* (‘beverage’) from *minum* (‘drink’) and used it in the phrase *saya minum minuman sejuk* (‘I drink a cold drink’). This shows not only awareness of the derivational pattern but also some ability to use the derived form within a larger phrase. The use of *-an* across more than one verb stem satisfies the lexical variation requirement of the emergence criterion, indicating Category Procedure attainment among all four learners.

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Only Participant A showed evidence of reduplication, producing *kawan-kawan* ('friends') in spontaneous speech. Since this form appeared only once, it does not fully meet the lexical variation requirement for treating reduplication as a productive plural strategy. However, its presence suggests awareness of a Malay morphological pattern that was not taught in the LM course. Participant A also used the colloquial particle *-lah* in forms such as *bolehlah* and *ikutlah*. This particle is commonly used in spoken Malay to soften or emphasise an utterance, rather than to add a direct lexical meaning. Her appropriate use of *-lah* in two different utterances suggests exposure to informal Malay interaction outside the classroom. In contrast, Participants B, C, and D showed no clear evidence of morphological knowledge beyond the *-an* suffix, and their output appeared to rely more on memorised vocabulary than on productive use of morphological patterns.

Developmental Stages in Malay Processability Theory (RQ2)

To address the second research question, the participants' production was assessed against the Malay PT hierarchy using the emergence criterion. Table 5 summarises the stages reached by all four participants.

Table 5: Summary Of All Participants' Malay Language Developmental Stages

PT Stage	Participant A	Participant B	Participant C	Participant D
Sentence Procedure	Pre-emergent — criterion not met *Yang ni, makanan apa ke?* (spontaneous); *Yang tengah* (incomplete, -1)	Pre-emergent — criterion not met *Yang kanan, saya suka, sebab manis* (after modelling); *Yang kanan* (incomplete, -1)	Pre-emergent — criterion not met *Saya suka, aiskrim, yang kiri* (non-target word order)	Pre-emergent — criterion not met *Yang kanan, pizza, saya suka* (immediately after prompt)
Phrasal Procedure (NP)	+2 *Dua ekor kucing; banyak kucing*	+2 *Dua ekor kucing; banyak kucing*	+3 *Banyak kucing; dua ekor kucing*	+2, -1* *Dua ekor kucing* (hesitant)*; ramai kucing → banyak kucing* (self-corrected error)
Phrasal Procedure (VP)	+3 *Dia tengah makan; boleh je cakap bahasa Melayu*	+2 *Dah makan; saya makan pizza dari Domino*	+1 *Saya mahu makan nasi lemak*	+2 *Saya nak main badminton; dia makan*

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Category Procedure	+3 *Makanan, mainan, minuman; kawan-kawan* (reduplication)	+2 *Makanan, mainan* (with guidance)	+2 *Makanan, mainan* (confirmed by analogy)	+3 *Makanan, mainan, minuman*
Lemma Access	70 types / 148 tokens	31 types / 63 tokens	34 types / 67 tokens	43 types / 60 tokens

Lemma Access

All four participants showed evidence of Lemma Access. Each participant produced more than 30 lexical types and used formulaic expressions such as greetings and self-introductions. Participant A engaged in a short greeting exchange in Malay, responding to the interviewer's question with *Apa khabar?* and replying to *Terima kasih* with *sama-sama* ('you're welcome'). Participant C produced *Alhamdulillah khabar baik* appropriately. Even Participant B, who had the most limited output overall, produced the formulaic introduction *Nama saya Hibah* and showed comprehension of questions asked in Malay. These findings suggest that Lemma Access is clearly attainable for learners who have completed the LM course.

Category Procedure

All participants showed productive use of the derivational suffix *-an* across more than one lexical item, satisfying the emergence criterion for Category Procedure. All four participants used the suffix in *makan* → *makanan* and *main* → *mainan*. Participants C and D needed interviewer prompting to produce *mainan*. Participant C, for example, tested the pattern aloud: *Makan is makanan, mainan?* Although prompted, this response suggests that he was able to recognise and extend the morphological pattern, which is consistent with adult learners' use of explicit rule awareness.

Participant D's spontaneous production of *minuman* from *minum* provides stronger evidence that the derivational pattern had been internalised beyond memorised forms. This suggests that at least some participants were able to apply the *-an* suffix productively.

Only Participant A produced evidence of reduplication, as seen in *kawan-kawan* ('friends') in spontaneous discourse. Since this form appeared only once, it does not fully satisfy the lexical variation requirement for treating reduplication as a productive plural strategy. However, it does show awareness of a Malay morphological pattern beyond the *-an* suffix. No other participant produced reduplication. This may be because the LM course appears to focus more on standard classroom Malay, where plurality is commonly taught through quantifiers and numeral classifiers rather than through reduplication. Overall, the findings suggest that formal instruction supports the acquisition of the *-an* derivational pattern, but does not necessarily develop the full range of Malay Category Procedure morphology.

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Phrasal Procedure: Verb Phrase Unification

At the VP Unification stage, all participants produced constructions that combined auxiliaries or modal verbs with main verbs. Participant A produced several VP constructions, including *Dia tengah makan* cookies ('She is eating cookies') and *boleh je cakap bahasa Melayu* ('can just speak Malay'). She also used both *tengah* and *sedang* in separate utterances, showing awareness of progressive constructions in Malay.

Participant B produced *dah makan* ('already eaten') and *saya makan pizza dari Domino* ('I eat pizza from Domino'), the latter being one of her few full sentence productions. Participant C produced *saya mahu makan nasi lemak* ('I want to eat nasi lemak'), which was his most syntactically complex utterance. Participant D produced *Saya nak main badminton* ('I want to play badminton') and *Dia makan* ('She/he eats'), with the latter showing the use of a subject pronoun even in a short response.

The presence of VP constructions across all four participants suggests that this stage is attainable through classroom instruction. High-frequency AUX-V patterns such as *nak* + V, *mahu* + V, and *boleh* + V are common in the LM curriculum and in everyday Malay interaction. Their fairly fixed word order and clear meanings may explain why learners can acquire them through explicit instruction and repeated classroom examples, even when naturalistic input is limited.

Phrasal Procedure: Noun Phrase Unification

NP Unification requires learners to combine quantifier or numeral classifier information with a head noun. All participants produced at least one NP construction that met this criterion. Participant A correctly produced both *dua ekor kucing* ('two cats'), using the animal classifier *ekor*, and *banyak kucing* ('many cats'). She also asked about the distinction between *ramai* and *banyak* before the interviewer confirmed it, showing awareness of Malay quantifier use.

Participants B and C produced both target forms accurately. Participant C provided the strongest NP evidence, with three correct instances across the session.

Participant D's NP production was also informative. She first produced *ramai kucing*, applying *ramai* to a non-human noun, before correcting it to *banyak kucing* after the interviewer's prompt. This suggests that she had begun to acquire the quantifier-noun pattern but had not yet fully mastered the distinction between *ramai*, which is used for human or animate referents, and *banyak*, which is used more broadly for non-human or inanimate referents. Her correction shows some monitoring ability, although the initial error is coded as -1 in Table 5.

Sentence Procedure: Yang-Clause Production

The Sentence Procedure stage was the most difficult to assess. All four participants produced utterances containing *yang*, but the quality of these productions varied. Participant A produced *Yang ni, makanan apa ke?* ('This one, what kind of food?'). This appeared to be spontaneous and self-initiated, with *yang* placed at the beginning of the topicalised construction. However, she also produced *Yang tengah* ('The middle one') as an isolated fragment without an interphrasal structure, which was coded as -1. Participant B produced *Yang kanan, saya suka, sebab manis* ('The right one, I like, because sweet'), but this followed explicit modelling by

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the interviewer. It is therefore difficult to determine whether the utterance was produced independently or partly imitated. She also produced *Yang kanan* as an isolated fragment without a predicate clause, which was coded as -1.

Participant C produced *Saya suka, aiskrim, yang kiri* ('I like ice cream, the left one'), with *yang* placed at the end of the utterance. This non-target word order suggests that the construction may still be emerging rather than fully productive. Participant D produced *Yang kanan, pizza, saya suka* immediately after the interviewer's *yang* prompt. For this reason, the utterance is treated cautiously, as it may reflect prompt influence rather than independent production.

The emergence criterion requires productive *yang*-clause use across at least two different lexical contexts. None of the four participants reached this threshold. A single instance, especially one produced after prompting or with non-target word order, does not provide enough evidence of acquired procedural capacity. These productions are therefore better described as pre-emergent. The structure appeared in the data, but it was not yet productively established. For this dataset, Phrasal Procedure, rather than Sentence Procedure, is the highest PT stage clearly supported by the evidence.

Cross-Case Patterns and Theoretical Implications

Three patterns can be observed across the four participants. First, all participants showed evidence of Category Procedure and Phrasal Procedure. This suggests that these stages are attainable after one semester of formal classroom instruction. Category-level morphology and phrasal patterns are rule-based, which may make them more accessible to adult learners through explicit teaching and repeated classroom practice. This finding supports the use of PT in analysing instructed adult Malay acquisition and suggests that the LM course provides a foundation for basic morphosyntactic development.

Second, none of the four participants fully satisfied the emergence criterion for Sentence Procedure. Although *yang*-clause attempts appeared in the data, they were limited to single instances. Some were produced only after interviewer modelling, some appeared as fragments without the required interphrasal clause, and others showed non-target word order. The lexical variation required by the emergence criterion was not present. For this cohort, Phrasal Procedure is therefore the highest stage clearly supported by the data. Any claim that Sentence Procedure was reached, even partially, would go beyond what the evidence can justify.

Third, the contrast between Participant A and the other three participants highlights the role of input quantity and quality. Participant A's regular interaction with Malay-speaking peers was associated with higher lexical diversity, better awareness of register, some colloquial morphological knowledge, and more confident spontaneous production. This is consistent with De Houwer's (2021) argument that input quantity and quality strongly shape developmental trajectories, and with Dąbrowska et al.'s (2020) finding that adult learners can reach high proficiency when exposure conditions are favourable. However, even Participant A did not satisfy the emergence criterion for Sentence Procedure. This suggests that informal peer interaction may support progress through the lower and intermediate PT stages, but reaching the highest syntactic stage requires more regular and extended exposure than one semester of casual interaction can provide.

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Pedagogical Implications

The findings suggest two main directions for university Malay programmes. First, explicit instruction should continue to target Category Procedure and Phrasal Procedure structures, as these appear to develop within one semester and provide the foundation for more complex grammatical development. Second, Malay courses should include more structured opportunities for interaction outside ordinary classroom drills. These may include conversation partnerships with Malay-speaking peers, community-based language tasks, or digital platforms that connect learners with local speakers.

Such activities should give learners meaningful opportunities to use *yang*-clause constructions and other higher-level structures in real communication. This would allow learners to encounter these forms as part of natural language use, rather than only as isolated grammar exercises.The curriculum may also introduce register variation more explicitly. Participant A's use of *-lah* and other informal forms suggests that exposure to spoken colloquial Malay can expand learners' receptive and productive competence. At the same time, this should be balanced with the need to maintain standard Malay norms in formal and academic contexts.

Limitations

Several limitations should be acknowledged. First, the small sample size (N = 4) means that the findings cannot be generalised to the wider population of international students. The study should therefore be read as an exploratory case study rather than a broad account of adult Malay acquisition.

Second, the elicitation task, although systematically designed, may have limited the range of language produced by the participants. Since the task targeted specific PT structures, it may not have captured forms that participants could produce in more natural settings. Future studies could include spontaneous conversation, narrative tasks, or picture-description activities to obtain a fuller picture of learners' morphosyntactic development.

Third, the cross-sectional design captured the participants at only one point in their development. As a result, the study cannot make claims about how quickly learners progress through the PT stages or how far they may eventually develop. Longitudinal research following learners from the beginning of the LM course into later semesters would provide stronger evidence on the relationship between instruction, informal interaction, and PT stage development.

Finally, the study did not quantify participants' input in detail. Information such as the number of instructional hours, frequency of interaction with Malay-speaking peers, and the proportion of Malay and English used in informal settings would help explain individual differences more precisely. Future research should include input diaries, contact logs, or structured language background questionnaires to address this gap.

Conclusion

This study examined Malay morphosyntactic acquisition among four IIUM international students through Processability Theory. The findings address both research questions. For RQ1, all participants showed productive use of the derivational suffix *-an* across more than one verb

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stem, satisfying the criterion for Category Procedure. Lexical acquisition, however, varied across participants. Participant A produced 70 types and 148 tokens, reflecting both classroom instruction and informal interaction with Malay-speaking peers. In contrast, Participants B, C, and D produced between 31 and 43 types and relied more heavily on classroom-taught vocabulary. Morphological knowledge beyond the suffix *-an*, including reduplication and colloquial forms such as *-lah*, appeared only in Participant A's data.

For RQ2, all participants showed evidence of Lemma Access, Category Procedure, and Phrasal Procedure. Phrasal Procedure is therefore the highest developmental stage clearly supported by the data. Although *yang*-clause attempts appeared across all four participants, none produced enough independent and varied examples to satisfy the emergence criterion for Sentence Procedure. This distinction is important because it prevents the study from overstating the learners' developmental stage. The data suggest awareness of *yang*-clause structures, but not productive acquisition of Sentence Procedure.

Participant A's stronger performance highlights the role of input quantity and quality in shaping development. Her regular interaction with Malay-speaking peers was associated with greater lexical diversity, some register awareness, colloquial morphological knowledge, and more confident spontaneous production. However, even Participant A did not satisfy the emergence criterion for Sentence Procedure. This suggests that higher-level syntactic structures require more regular and extended exposure than one semester of informal interaction can provide.

The study makes three main contributions. First, it extends PT research to adult Malay foreign language acquisition, an area that remains underexplored. Second, it provides empirical data on international students learning Malay within a university language course. Third, it offers pedagogical insights for university Malay programmes, especially the need to combine explicit instruction for lower PT stages with structured communicative activities that encourage the use of higher-level structures such as *yang*-clauses. Future research should involve larger samples, longitudinal designs, more precise input measures, and more naturalistic data collection to strengthen the evidence base and further refine the application of PT to instructed adult Malay acquisition.

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References

Bialystok, E. (1997). The structure of age: In support of an experimental approach to second language acquisition. *Second Language Research*, *13*(3), 246–282. https://doi.org/10.1191/026765897670079967

Bonilla, C. L. (2015). From number agreement to the subjunctive: Evidence for processability theory in L2 Spanish. *Second Language Research, 31*(1), 53–74. https://doi.org/10.1177/0267658314536181

Che Mee, S. K. (2020). Penguasaan sintaksis bahasa Melayu dalam kalangan pelajar sarjana muda bahasa dan linguistik Melayu di Universiti Putra Malaysia. *International Journal of the Malay World and Civilisation, 8*(1), 59–73. https://doi.org/10.17576/jatma-2020-0801-06

Dąbrowska, E., Becker, L., & Miorelli, L. (2020). Is adult second language acquisition defective? *Frontiers in Psychology, 11*, Article 1839. https://doi.org/10.3389/fpsyg.2020.01839

De Houwer, A. (2021). *Bilingual development in childhood*. Cambridge University Press. https://doi.org/10.1017/9781108866002

Di Biase, B., & Bettoni, C. (2015). An introduction to processability theory. In B. Di Biase, S. Kawaguchi, & H. Sato (Eds.), *Processability approaches to second language development and second language learning* (pp. 1–25). Cambridge Scholars.

Di Biase, B., Kawaguchi, S., & Sato, H. (Eds.). (2015). *Processability approaches to second language development and second language learning*. Cambridge Scholars.

Haryono, E. P., & Manggopa, R. E. (2024). The effect of age toward learning a second language. *Journal of English Language Teaching, Literature and Culture, 3*(1), 75–80. https://doi.org/10.53682/jeltec.v3i1.6240

Hashim, A. (2024). *Multilingualism and language policy in Malaysia.* Cambridge University Press.

Hashim, A., Hamid, M. O., & Kirkpatrick, A. (2024). *Language policy and education in ASEAN*. Routledge.

Kawaguchi, S. (2015). Processability theory applied to Japanese as a second language. In B. Di Biase, S. Kawaguchi, & H. Sato (Eds.), *Processability approaches to second language development and second language learning* (pp. 85–115). Cambridge Scholars.

Krashen, S. D. (1985). *The input hypothesis: Issues and implications*. Longman.

Lenneberg, E. H. (1967). *Biological foundations of language*. Wiley.

Long, M. H. (1996). The role of the linguistic environment in second language acquisition. In W. C. Ritchie & T. K. Bhatia (Eds.), *Handbook of second language acquisition* (pp. 413–468). Academic Press.

Mansouri, F. (2005). Agreement morphology in Arabic as a second language: Typological features and their processing implications. In M. Pienemann (Ed.), *Cross-linguistic aspects of processability theory* (pp. 117–153). John Benjamins.

Mohamed Salleh, R. T. A., Di Biase, B., & Kawaguchi, S. (2021). Lexical and morphological development: A case study of Malay–English bilingual first language acquisition. *Psychology of Language and Communication, 25*(1), 29–61. https://doi.org/10.2478/plc-2021-0003

Mohamed Salleh, R. T. A., Di Biase, B., & Kawaguchi, S. (2023). The bilingual development of plural marking in a Malay–English child. In M. Pienemann & A. Lenzing (Eds.), *Processability approaches to language acquisition research and teaching* (Vol. 9, pp. 165–191). John Benjamins. https://doi.org/10.1075/palart.9.07moh

Mohamed Salleh, R. T. A., Kawaguchi, S., & Di Biase, B. (2019). A case study on the acquisition of plurality in a bilingual Malay–English context-bound child. *GEMA Online Journal of Language Studies, 19*(3), 22–42. https://doi.org/10.17576/gema-2019-1903-02

Ngadiron, S., Abd Aziz, A., & Muhamad Rusly, N. H. (2020). Challenges of taking Malay language communication course among international students in tertiary level of studies. *International Journal of Humanities, Philosophy and Language, 3*(9), 01–07. https://doi.org/10.35631/ijhpl.39001

Nor Shaid, N. A., Hamid, S. A., & Maros, M. (2022). Exploration of Malay language acquisition and learning experience among Orang Asli students. *International Journal of Learning, Teaching and Educational Research, 21*(5), 126–142. https://doi.org/10.26803/ijlter.21.5.7

Othman, M. S., & Nor Shaid, N. A. (2021). Issues and challenges faced by Chinese teachers in teaching the Malay language at Sekolah Jenis Kebangsaan Cina. *International Journal of Humanities, Philosophy and Language, 4*(16), 01–15. https://doi.org/10.35631/ijhpl.416001

Pallotti, G. (2007). An operational definition of the emergence criterion. *Applied Linguistics, 28*(3), 361–382. https://doi.org/10.1093/applin/amm018

Pienemann, M. (1998). *Language processing and second language development: Processability theory*. John Benjamins.

Pienemann, M., & Lenzing, A. (2025). *Processability theory: Explaining language acquisition*. John Benjamins.

Ruslin, Mashuri, S., Sarib, M., Rasak, A., & Alhabsyi, F. (2022). Semi-structured interview: A methodological reflection on the development of a qualitative research instrument in educational studies. *IOSR Journal of Research & Method in Education, 12*(1), 22–29. https://doi.org/10.9790/7388-1201052229

Shawai, Y. G., Mohamed, M. A., Almaiah, M. A., & Abdullahi, F. G. (2022). Malay language learning difficulty by international community: A case study of postgraduate students of UNISZA and UMT. *Asian Journal of Research in Computer Science, 13*(3), 13–21. https://doi.org/10.9734/ajrcos/2022/v13i230309

Sinclair, J. (1991). *Corpus, concordance, collocation*. Oxford University Press.

Tomasello, M. (2003). *Constructing a language: A usage-based theory of language acquisition.* Harvard University Press.

Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). SAGE.

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Appendix 1

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