

Acquisition of English Relative Clauses by Malaysian L1 Tamil Speakers

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ABSTRACT

This study investigated the acquisition of English Relative Clauses (RCs) by Malaysian L1 Tamil speakers of L2 English based on the Failed Functional Features Hypothesis (FFFH). The aim was to find out if the Tamil speakers were capable of resetting the parameter of Tamil RCs into the English RC settings. The formation of RCs in both English and Tamil involves *wh*-movement. However, Tamil also allows the non-movement option which is considered ungrammatical in English. Specifically, the study investigated the development of English RC acquisition among three different proficiency groups of L1 Tamil learners who were selected based on the Oxford Placement Test 2. Data was gathered from 145 students via a Grammaticality Judgement Test. The results showed that the ability of the participants to accept grammatical items was better than their ability to reject ungrammatical items. The results also showed that if two options of a parameter were available in the L1, then one would be the default, and this tended to be carried over to the L2 acquisition

process. Thus, the findings showed that the participants' L2 grammar seemed to lack the functional features involved in English RC formation, which were not accessible after the critical period, supporting the FFFH.

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INTRODUCTION

The acquisition of English relative clauses (RC) has often been problematic for ESL (English as second language) learners, especially L1 speakers of other languages whose RC structure differs from the English structure. This group would include L1 Tamil speakers since there is a difference in RC formation between the two languages. In our case, the participants are rural secondary school and post high school adult Malaysian L1 Tamil speakers. A number of studies on the acquisition of RCs in child grammars among speakers of European languages and Tamil have been carried out (e.g. Bai, 1989; Flynn & Lust, 1980; Goodluck & Tavakolian, 1982; Hamburger & Crain, 1982; Labelle, 1990, 1996; Lebeaux, 1990; Nirmala, 1980; Sheldon, 1974 as stated in Lakshmanan, 2000). Studies on the L2 acquisition of English RCs have also been conducted (see e.g. Hawkins & Chan, 1997; Wong, 2002). However, very few studies have been conducted on the acquisition of English RCs by subjects whose L1 is Tamil (Lakshmanan, 2000). Previous published studies on the acquisition of Tamil RCs among L1 Tamil speakers were carried out by Lakshmanan (2000), Bai (1989) and Nirmala (1980). However, no studies have been reported on the acquisition of English RCs by L1 Tamil speakers in Malaysia. The present study addresses this gap in the literature by investigating the capability of Malaysian L1 Tamil speakers in the acquisition of English RCs. In addition, the anticipated staged development of the acquisition of English RCs among

the participants may have a pedagogic significance in that it may provide a practical justification for letting the younger learners be taught the less complex RCs before they are exposed to and taught the more complex RCs. Further, the findings of the study will enrich one's understanding of the reasons for the difficulties faced by the L1 Tamil speakers of L2 English in constructing RCs and will provide insights into ways to overcome the problem.

The focus of the study is to find out if L1 Tamil speakers of different levels of proficiency can reset the parameter (see Mitchell & Myles, 2004) of the Tamil RC setting into the English RC setting. In this paper, we report quantitative data which shows that with increased proficiency in the L2 (English), the L1 Tamil speakers do become more competent in English RC acquisition involving short movement (SM) and long movement (LM) although not native like even at the advanced stage. Next, we provide evidence that this could be due to the fact that some grammatical categories which have been acquired in the L1, cannot be altered after the ¹critical period due to associated functional properties in the corresponding L2 categories being

¹ critical period –“Parameterized functional features are subject to a critical period. When this is past, learners no longer have access to the ‘virtual, unspecified features’ that constitute UG but only to how these features are encoded in the lexical entries of their L1. These assumptions serve as the basis for claiming that (1) the main difference between L1 and L2 learners lies in the properties of the input that they can assimilate into their mental grammars, and (2) that when the critical period is past learners are unable to assimilate features from the input unless they are also instantiated in some form in their L1.” (Ellis, 2012).

not operative in the learners' L1. In the concluding section, we argue that although Tamil allows for both +wh-movement and non-wh-movement in RC formation, the L1 Tamil learners seemed to have adopted the non-movement option as the default. This would be in line with the proposal put forth by Hawkins and Chan (1997) that stated the features that were associated with functional categories that had not been instantiated in a speaker's L1 might not be acquired after a critical period (e.g. Smith & Tsimpli, 1995; Tsimpli, & Roussou, 1991; Tsimpli & Smith, 1991).

Linguistic Assumptions

Relative Clause in English. In English the relative clause (RC) acts as the post modifier to the Noun Phrase (NP) (the matrix clause precedes the RC). The formation of RC involves movement of the *wh*-phrase to the specifier position of the Complementizer Phrase (CP) in the embedded clause and this movement leaves a trace in the position from which it has been moved out (e.g. Wong, 1999). This trace is the original site of the *wh*-pronoun which the clause is identifying; the head noun of the whole NP determines its reference. The examples below which are adapted from Wong (1999) exemplify this:

Example 1:

- a) The television_i [CP Ø [I bought wh_{-i}]] is expensive.
- b) The television_i [which_i Ø [I bought t_i]] is expensive.

The trace is coindexed with the fronted *wh*-phrase which is bounded by the operator and forms an A' chain with the operator (Roberts, 1997). *Wh*-movement is subject to constraints discussed in Ross (1967, cited in Roberts, 1997). The constraints are called islands (see examples 2(a & b)).

Example 2 (adapted from Wong, 1999):

- a) *²The play [CP₁ which_i Ø [³IP I believe [DP the claim [CP₂ t_i' Ø [IP₂ she had commented on t_i]]]]] is Beauty and the Beast.
- b) *[CP₁ Who_i were [IP₁ you wondering [CP₂ how_j [IP₂ t_i should fix the piano t_j]]]]]?

Ross (1986, cited in Roberts, 1997) noted the Complex Noun Phrase (CNP) constraint where no elements contained in a sentence dominated by a noun phrase (NP), now reanalyzed as DP⁴, may be moved out of that DP. Example 2(a) illustrates a DP which contains an RC and that an extraction from the RC out of the DP is prohibited as DP is an island (Roberts, 1997). Example 2(b) is an instance of a *wh*-island. *Wh*-islands are clauses introduced by *wh*-phrases. Extracting a *wh*-element from a *wh*-island will lead to ungrammaticality (Roberts, 1997). There are boundaries on movement that determine how far an element can be moved. This constraint on the distance of movement is known as the Subjacency condition. Movement cannot cross more than one bounding node, when

2 * - ungrammatical
3 IP - Inflectional Phrase
4 DP - Determiner Phrase

bounding nodes are IP and NP (Haegeman, 1997). In example 2(b) above, *who* crosses both IP₂ and IP₁ in a single movement and Subjacency rules this out.

Another principle, the Empty Category Principle (ECP) deems that all traces must be properly governed. ECP states that non-pronominal empty category must be:

- a. governed by a lexical head (lexical government)
- b. governed by the moved category (antecedent government) (Roberts, 1997)

In 2(b), the subject trace is neither properly head governed nor antecedent governed. It is impossible to perceive this because the traces fail the ECP since they are neither lexically governed nor antecedent governed (Wong, 1999).

Relative Clause in Tamil

Subjects and verbs in Tamil are richly inflected for agreement (person, number and gender). The canonical word order of Tamil is Subject Object Verb (SOV). Thus, Tamil is a head last language (Lakshmanan, 2000). Unlike English, the Tamil RC acts as the pre-modifier of the NP, i.e. it precedes the matrix clause.

There are three types of RCs in Tamil: correlative, participial and tag. The participial RC is the typical mode of relativization in Tamil, and this occurs in both colloquial and formal varieties of Tamil. The Tag RC is found mainly in the colloquial variety while the correlative RC is mainly found in literary Tamil and it rarely occurs in the former (Lakshmanan, 2000).

Since Tamil participial RCs (+*wh*) and tag RCs (-*wh*) are directly related to the study, examples of both are provided here. Tamil also makes use of rich ⁵case distinctions. The participial RC, also known as adjectival RC, consists of a head noun which is represented as zero in the RC, i.e. it is not overtly expressed. The following is an example of participial RC.

Example 3 (Lakshmanan, 2000):

[NP[S *neettikki inke va -nt-a*]
[*paiyan-ai*]] *naan innikki paar-tt-een*
yesterday here come-⁶Pst-RP boy-⁷Acc
I-Nom today see-Pst-1PS

Today I saw the boy who came here yesterday.

Example (3) clearly shows that the participial RC precedes the head noun and there is no overt complementizer in this RC. The verb in this RC type takes the Relative Participial (RP) ‘*a*’ (see Kothandaraman, 1972; Mohiddin, 1976) as seen in the verb *va-nt-a* (*came*). The participial RC, [NP[S *neettikki inke va-nt-a*], along with the nominal head, [*paiyan-ai*]], forms the NP constituent. Hence the RC moves along with the nominal head. The formation of participial RC could be analysed in two possible ways based on the facts that:

- i) there is a NP gap present in the participial RC at the surface level

5 Nominative case, which is the case typically borne by the subject of a clause, is morphologically unmarked. The Accusative case marker -ai, marks the direct object of the verb and the Dative case marker -ukku is borne by the indirect object. Other overt case forms include the locative, instrumental, sociative, ablative, genitive, and benefactive.

6 Pst - past

7 Acc - accusative

- b) **siittaa enke santi-tta-al enru raman-uku*
 Sita-Nom where meet-Pst-3PSFem¹⁰
 C Raman-Dat¹¹
nyapakam va-nt-a paiyan
 remembrance-Nom come-Pst-RP
 boy-Nom
 The boy who Raman remembered
 where Sita met...

- c) **siitta kalyanam pannikka virumbu-kir-a sankiti-y-ai patri*
 Sita-Nom marriage do-¹²Inf wish-
 Pres-RP news-Acc about
naan kee-tt-a paiyan
 I-Nom hear-Pst-RP boy-Nom
 The boy who I heard about the news
 that Sita wishes to marry...

In contrast to participial RC, the tag RC does not involve *wh*-movement (Lakshmanan, 2000). The tag RC consists of a verb richly inflected for both tense and agreement. The verb takes an overt clitic complementizer *ee* which is appended to the end of the verb. The complementizer functions as a connector of the RC and the nominal head. The speaker assumes that the hearer knows about the incident or the subject that is being discussed. The clitic complementizer always expresses an actual or factual event but not a hypothetical event (see Example 6).

Example 6 (Lehmann, 1993):

[NP[S *netru oru paiyan inke va-nt-aan-ee*] [NP *anta*
 yesterday a boy here come-Pst-3PSMasc-¹³Cc that
paiyan-ai]] *naan inru paar-tt-en*
 boy -Acc I today see-Pst-IPS
 Today I saw the boy who came here
 yesterday.

In the phrase *netru oru paiyan inke va-nt-aan-ee* (the boy who came here yesterday), the clitic complementizer *ee* tells us that the hearer knows that the boy came here yesterday and that the event is factual and not hypothetical. The head NP of the RC is represented by an overt NP in the RC, the NP *oru paiyan*. The NP is coreferential with the head noun *anta paiyanai*. The NP in the RC is not overtly expressed as shown in Example 6. No element can be scrambled between the tag RC and the nominal head that immediately follows the RC; it is assumed that the RC and the nominal head together form the NP constituent. Hence the nominal head and the RC cannot be separated. The nominal head moves along with the RC (Lakshmanan, 2000). The attributes of the tag RC explain the fact that the nominal head and the RC are inseparable as illustrated in Examples 7 (a-c):

10 3PSFem-third person singular feminine
 11 Dat-dative
 12 Inf- infinitive

Example 7:

13 Cc- clitic complementizer

(a) [NP[Snetru oru paiyan inke va-nt-aan-ee]
 yesterday a boy here come-Pst-3PSMasc-Cc
 [NP anta paiyan-ai]] naan inru paar-tt-en
 that boy-Acc I today see-Pst-1PS
 Today I saw the boy who came here yesterday.

The NP representing the head NP in the RC is moved over the finite verb + clitic *-ee* by a stylistic movement transformation as in the following example:

(b) [[netru inke va-nt-aan-ee oru paiyan] [anta
 yesterday here come-Pst-3PSMasc-Cc
 a boy that
 paiyan-ai]] naan inru paar-tt-en
 boy -Acc I today see-Pst-1PS
 Today I saw the boy who came here yesterday.

Another attribute of tag RC is that the head NP in the RC can be deleted as in 7(c) (Lehmann, 1993):

(c) [[netru inke va-nt-aan-ee]
 [anta paiyan-ai]]
 yesterday here come-Pst-3PSMasc-Cc
 that boy-Acc
 naan inru paar-tt-en
 I today see-Pst-1PS
 Today I saw the boy who came here yesterday.

Examples 7a-c provide evidence that the NP in the RC moves along with the nominal head. The main verb *va-nt-aan-ee* consists of the pronoun *avan* (he) *vanta+avan* (came + he) resembling the nominal head and this explains why the head NP in the RC can be deleted without any semantic deviation.

The following figure is the phrase marker of the tag RC in Example 7c. As shown in Figure 2, the tag/affixal RC does not appear to involve the movement of a null Operator. Instead, a null Operator is simply base generated in SPEC of CP. The relativization site within the RC is typically occupied by the phonologically null element *pro*, which is the unmarked option coindexed with the null Operator and the nominal head (the subject of predication (Lakshmanan, 2000)). The construction

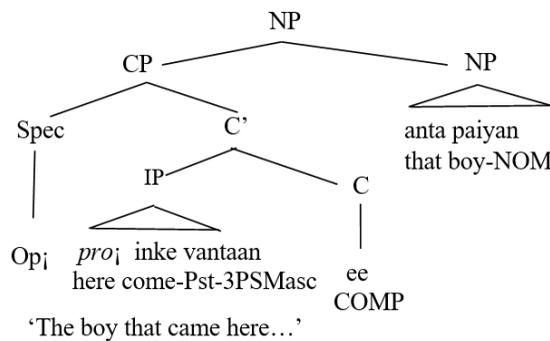


Figure 2. Phrase marker of the tag relative clause structure (Lakshmanan, 2000).

of the tag RC reveals that it is not derived from *wh*-movement as it is not subject to island constraints and permits long distance relativization from complex NPs and *wh*-clauses. Tag RCs also do not exhibit cross over effects. Examples 8 (a-c) illustrate this: Example 8 (Lakshmanan, 2000):

(a) *sita neesi-kkir-aal enra*
sankkiti-y-ai naan
 Sita-Nom love-Pres-3PSFem that news
 -Acc I-Nom
kee-tt-en-ee anta paiyan
 hear-Pst-1PS-Cc that boy-Nom
 The boy who I heard the news that Sita
 loves...

(b) *en-akku sita enke santi-tt-aal*
enru
 I-Dat Sita-Nom where meet-Pst-
 3PSFem that
nyapakam va-nt-at-ee
anta paiyan
 remembrance-Nom come-Past-3PSN-Cc
 that boy-Nom
 The boy who I remembered where Sita
 met...

(c) *sita kalyanam pannikka virumbu-*
kir-a sankkiti-y-ai
 Sita-Nom marriage do-Inf wish-Pres-
 RP news-Acc
patri naan kee-tt-en-ee anta
paiyan
 about I-Nom hear-Pst-1PS-Cc that boy-
 Nom
 The boy who I heard about the news that
 Sita wishes to marry...

The examples in 8 (a-c) are all grammatical providing evidence that the tag RC, unlike the participial RC does not involve *wh*-movement (Lakshmanan, 2000).

MATERIALS AND METHODS

Participants

The participants of this study were secondary school students (aged between 13 and 18) and post-secondary adults (pre-university and undergraduates). A total of 145 participants were selected based on pre-set criteria, i.e. they must use Tamil as their medium of communication at home and had received primary education in rural Tamil schools and secondary education in rural national schools (participants were selected from rural areas to ensure that younger participants are true L1 Tamil speakers). A participant selection form was used to select participants with these criteria. They were divided into three proficiency levels based on the Oxford Placement Test (OPT) Pack 2, (Allan, 2004) i.e. Elementary (E), Intermediate (I) and Advanced (A). In total, ninety-eight (98) elementary level, 22 Intermediate level, and 25 advanced level participants were selected for the study. Before the commencement of the study, consent was obtained for experimentation with the participants.

Materials and Procedures

A Grammaticality Judgement Test (GJT) was used to measure the participants' capability in identifying the grammatically correct and incorrect English RCs involving

short movement (SM) and long movement (LM). The GJT consisted of a total of 96 items, of which 48 items were grammatically correct and another 48 grammatically incorrect (adapted from Hawkins & Chan, 1997; Wong, 1999). The even distribution of items tested ensured elicitation of the participants' understanding of English RCs. The distribution of items was as follows: extraction from both short and long movement with 8 involving extraction of subject (4 active and 4 passive), 4 involving extraction of direct object, 4 involving extraction of prepositional object, 4 involving extraction of genitive object, subject and prepositional object and 4 involving extraction of object of comparison. The 96 items in the GJT were randomly arranged to avoid metalinguistic focus on the part of the participants.

A pilot study involving 140 participants selected based on the set criteria (90 participants aged between 13 and 18 and 50 pre-university and undergraduates) was carried out to test the reliability of the instruments used in this study. The items in the GJT were analyzed for internal consistency using Cronbach Alpha (CA) and those items with low readings were rewritten. During the test, the participants received no assistance from both the researcher and their English language teachers. The participants were allowed to use a vocabulary list comprising selected words from the test that were translated into the participants' L1. The data collected from the GJT were analyzed using SPSS (version 16). The scoring of the GJT was adapted from Wong (1999).

For the grammatical items, the scales are (1) Definitely Acceptable, (2) Probably Acceptable, (3) Probably Unacceptable and (4) Definitely Unacceptable. Responses (1) and (2) were considered correct responses for grammatical items while responses (3) and (4) were accepted as correct answers for the ungrammatical items. In the case where the participants reverse the responses, i.e. when they provided responses of (3) or (4) for the grammatical items and (1) or (2) for the ungrammatical items, then their judgement would be deemed incorrect. Items with no response were placed under the category of incorrect judgement. The items were read one at a time with careful intonation, stress and rhythm. A nine second interval was given between items, following past studies (see Hawkins & Chan, 1997; Wong, 1999).

The results of this test would inform us whether the participants have the competence to identify and distinguish the grammatical from the ungrammatical English RCs. A post hoc test was done on the GJT scores to compare the significant difference(s) in each set of the items among the three proficiency levels. The results would reveal whether the participants had acquired English RCs in stages as documented in past second language acquisition (SLA) studies on RCs (Wong, 1999, 2002).

RESULTS AND DISCUSSION

Table 1 summarizes the data obtained from the GJT that registered significant differences among the three proficiency levels.

Table 1

Summary of the comparison of mean scores of GJT

Items	Elementary (%)	Intermediate (%)	Advanced (%)	SD	df	F value	p value
Total GJT scores	59.79	63.00	68.75	16.27	2	13.80	0.000*
Total Grammatical	61.80	64.23	70.83	11.94	2	13.80	0.000*
Total Ungrammatical	47.91	52.23	56.16	13.68	2	7.76	0.001*
Total SM	63.52	64.26	79.94	7.47	2	14.56	<0.001*
Total LM	61.19	64.19	67.77	6.31	2	6.39	0.002*

* significant at $p \leq 0.05$

The results of the GJT scores between proficiency levels showed that there is an incremental trend from the Elementary to the Advanced level for all the RC types providing evidence that with increased proficiency, the ability of the participants to accept grammatical English RCs also increases. However, the mean scores in percentages showed that even at the Advanced level, the participants' ability to accept English RCs is not near native like, i.e. 68.75%. The score for the grammatical items is 70.83% and for the ungrammatical items, 56.16%. All the mean scores are below 80%. Items involving SM and LM also show similar results. The mean score for the SM items is 79.94% and for the LM items, 67.77%. The scores of the ungrammatical items are even lower although there is a significant difference in the mean scores ($p=0.001$, $SD=13.68$) attained by the three proficiency levels. In fact, the mean scores for ungrammatical English RCs are at chance level.

The results here show that the participants' underlying knowledge regarding English RC formation, especially at the Elementary level, is not native like (overall mean = 59.79%; mean of grammatical items = 61.80%; mean of ungrammatical items = 47.91%; mean of SM items = 63.52%; mean of LM items = 61.19%). Taken together the results suggest that the participants' level of acceptance of the grammatical items is better than rejection of ungrammatical items, an indication that their intuition of the items is evidently non-native like. Native speakers would generally be able to judge grammatical items as grammatical and to reject ungrammatical items to more or less equal levels.

The results of the grammatical RCs in the GJT (see Table 2) show a steady increase from the Elementary to the Intermediate and to the Advanced level. Generally, the participants' performance showed that the easiest RCs to acquire are those involving extraction of the subject (both active and

passive) (Advanced level: SM subject active (act) = 81.66%; SM subject passive (pas) = 87.66%). However, there is no significant difference in the scores between proficiency levels involving the extraction of both the RC types for the three proficiency levels at $p=0.131$, $SD=2.37$ (SM subject act) and $p= 0.059$, $SD=2.23$ (SM subject pas) respectively.

The scores reported for subject and direct object (direct obj) relatives (84.66%) show that these are the easiest for the Advanced level group to judge compared to genitive (65.66%, A) and object of comparison (obj of comp) relatives (64.00%, A). The Elementary level participants performed almost to native like level

for both the SM subject relatives (act = 76.58%, pas = 79%) while the Intermediate (85.16%) and Advanced proficiency level participants (81.66%) were native like in their performance in judging the SM subject act (based on 80% cut-off point for native like competence (see Wong, 1999, 2002)). This indicates that RCs involving SM especially those involving extraction of the subject is easier to judge. Hence all the participants performed to a satisfactory level with no significant differences in their scores. In the case of RCs involving LM extraction of subject (pas) the participants' scores were almost similar i.e. below 70% (64.16%, E; 68.91%, I and 69.33%, A).

Table 2

Summary of the comparison of mean scores of types of grammatical RCs in the GJT between the proficiency levels

RC type	Elementary (%)	Intermediate (%)	Advanced (%)	SD	Df	F value	p value
SM subject (act)	76.58	85.16	81.66	2.37	2	2.05	0.131
SM subject (pas)	79.00	75.75	87.66	2.23	2	2.884	0.059
SM direct obj	67.41	71.16	84.66	2.84	2	5.59	0.005*
SM obj of prep	54.83	46.58	60.66	2.92	2	1.998	0.139
SM genitive	51.66	55.25	65.66	1.96	2	7.94	0.001*
SM obj of comp	49.58	54.50	64.00	2.52	2	4.95	0.008*
LM subject (act)	73.33	79.91	86.66	2.20	2	6.01	0.003*
LM subject (pas)	64.16	68.91	69.33	2.17	2	1.189	0.307
LM direct obj	66.83	74.16	83.00	2.07	2	10.43	0.000*
LM obj of prep	51.33	43.50	44.00	2.64	2	1.895	0.154
LM genitive	51.58	57.50	56.00	2.16	2	1.328	0.268
LM obj of comp	59.75	60.91	67.66	2.24	2	1.800	0.169

* significant at $p \leq 0.05$

The results also showed that the participants had difficulty judging items involving SM extraction of obj of comp and LM extraction involving obj of preposition (obj of prep). Further, a Bonferroni post hoc test registered a significant difference on the scores of SM extraction of obj of comp between the Elementary and Advanced levels ($p=0.007$). With regard to items involving LM with extraction of genitive, the Intermediate level participants did slightly better (57.50%, I) than the other two proficiency levels (51.58%, E; 56.00%, A) although the result was not significant. This showed that the participants' difficulty in acquiring this type of RC was almost at a similar level. Although the scores are not native like, they are interesting as they showed that an increase in proficiency is necessary to understand and acquire the embedding process in RCs involving LM.

The mean scores in percentages of the ungrammatical RC types (see Table 3) showed that the Advanced proficiency level participants did significantly better than the other two proficiency levels. With regard to RCs with resumptive pronoun in direct obj position, the mean scores in percentages showed an incremental trend (45%, E; 57.50%, I and 64.66%, A). A Bonferroni post hoc test showed there is a significant difference in scores involving resumptive pronoun in direct obj position between Elementary and Advanced levels ($p<0.001$) and between Elementary and Intermediate levels ($p=0.054$). With increase in proficiency, the participants' ability to judge this set of items also increased. However,

no significant difference is registered in the scores of RCs with resumptive pronoun in the position of obj of prep ($p=0.286$, $SD=2.63$) and in the position of obj of comp ($p=0.217$, $SD=2.60$) and proficiency levels, indicating participants' ability to correctly reject these items is similar across the board. These are ungrammatical items and the below 60% results (obj of comp=47.83%, E; 56.75%, I; 49.00%, A) indicate that the participants have stabilized (since no significance difference is registered) across the board showing that when it comes to ungrammatical items, they are definitely non-native like.

Significant differences were registered between RCs with *wh*-island involving direct obj ($p=0.049$, $SD=2.51$) and obj of prep ($p=0.012$, $SD=2.56$), and proficiency levels respectively (see Table 3). However, a Bonferroni post hoc test revealed no significant difference in the mean scores of RCs with *wh*-island involving direct obj among the three proficiency levels, indicating that the difference in the mean scores between them is rather small. A Bonferroni post hoc test showed a significant difference in the mean scores of RCs with *wh*-island involving obj of prep between participants in the Elementary and Advanced levels ($p=0.033$). A proficiency related progression is seen in both RCs with *wh*-island involving direct obj (52.91%, E; 61.66%, I; 62.33%, A) and obj of prep (48.91%, E; 59.08% I; 61%, A). The mean scores for *wh*-island involving subject and obj of comp (52.66%, E, 60.16%, I, 62.00%, A; and 46.16%, E, 40%, I, 48.33%, A;

respectively) indicate that the participants are similar in their knowledge of these items since there is no significant difference ($p=0.088$, $SD=2.61$ and $p=0.371$, $SD=2.37$ respectively).

With regard to RCs with CNP involving subject and obj of prep, a one-way ANOVA registered significant difference between the scores of these items and proficiency levels ($p=0.016$, $SD=2.61$, $p=0.016$, $SD=2.56$ respectively). The mean scores showed a proficiency related progression, i.e. 45.66%, E; 50%, I; 61%, A; and 52.33%, E; 60.91%, I; and 65.35%, A respectively. Further, a Bonferroni post hoc test indicated a significant difference in the mean scores of

RCs with CNP involving subject extraction between participants at the Elementary and Advanced levels ($p=0.021$). A Bonferroni post hoc test also showed significant difference in the mean scores of items with CNP involving obj of prep between Elementary and Advanced level participants ($p=0.025$), suggesting that the participants' ability to reject these ungrammatical items increases with proficiency. With regard to RCs with CNP involving direct obj and obj of comp, a one-way ANOVA registered no significant difference between the scores of these items and proficiency levels ($p=0.351$, $SD=2.48$ and $p=0.607$, $SD=2.23$ respectively), indicating that the participants

Table 3

Comparison of mean scores of types of ungrammatical RCs between the proficiency levels

RC Type	Elementary (%)	Intermediate (%)	Advanced (%)	SD	df	F value	p value
RP direct obj	45.00	57.50	64.66	2.80	2	9.190	0.000*
RP obj of prep	51.00	55.25	58.33	2.63	2	1.264	0.286
RP obj of comp	47.83	56.75	49.00	2.60	2	1.545	0.217
WH isl subject	52.66	60.16	62.00	2.61	2	2.476	0.088
WH direct obj	52.91	61.66	62.33	2.51	2	3.07	0.049*
WH isl obj of prep	48.91	59.08	61.00	2.56	2	4.57	0.012*
WH isl obj of comp	46.16	40.00	48.33	2.37	2	0.997	0.371
CNP subject	45.66	50.00	61.00	2.61	2	7.73	0.016*
CNP direct obj	50.91	43.91	50.66	2.48	2	1.054	0.351
CNP obj of prep	52.33	60.91	65.35	2.56	2	4.28	0.016*
CNP obj of comp	46.08	41.66	45.33	2.23	2	0.501	0.607
DFCP	30.33	43.16	41.33	1.62	2	3.09	0.048*
Null Subject	50.00	34.83	50.66	1.90	2	3.78	0.025*

*significant at $p \leq 0.05$

were similar in their ability to correctly reject these ungrammatical items. However, the mean scores show a U-shaped pattern (see e.g. McLaughlin, 1990): 50.91%, E; 43.91%, I; 50.66%, A for direct object items, and 46.08%, E; 41.66%, I; and 45.33%, A for obj of comp items. The Elementary participants accepted the items to about 51% and 46% respectively. However, as linguistic competence becomes more sophisticated as evident in the Intermediate group, they rejected some of the items that were accepted by the other two groups, as part of the process of restructuring their interlanguage (see McLaughlin, 1990), at about 44% and 42% respectively. With increased proficiency in the target language, the participants seemed to accept more of the said items at about 51% and 45% respectively, indicating emerging increased understanding of the rule underlying the formation of these RCs. The results here exemplify a phenomenon that has been documented in the literature as moving “two steps forward and one step back” (Grassi & Barker, 2010), also known as backsliding (Brown, 2007; Lightbown & Spada, 1999). However, the increase in both cases stabilized at around 51% and 45% for CNP direct obj and obj of comp items.

A one-way ANOVA registered significant difference in the mean scores of RCs with DFCP (Doubly Filled Complementizer Phrase) in relation to proficiency levels among the three groups of participants ($p=0.048$, $SD=1.62$). However, a Bonferroni post hoc test did not show any significant difference in the mean

scores of RCs with DFCP between the three levels, showing that participants in all the three proficiency levels rejected these ungrammatical items at similar levels. In other words, the interlanguage of the participants for these items stabilized across the board at 30.33%, E; 43.16%, I; 41.33%, A. However, the mean scores in percentages indicated that the Elementary level participants were least accurate. The finding here further confirms what is available in the literature, i.e. L2 learners show obvious developmental stages in their acquisition (see Escobar, 2001; Wong, 1999, 2002). The results here also indicate some instances of U-shaped development. It is also observed that for these ‘difficult’ items, participants’ interlanguage generally stabilize at rather low levels of accuracy normally around 50%. It was found that RCs involving SM are easier to acquire compared to RCs involving LM extraction. This is to be expected due to the increased processing load involved in LM (Kiss-Gulyás, 2004).

It is evident that the participants of this study found it easier to correctly judge RCs involving SM and LM extraction of subject. This could be due to RCs involving subject extraction being more predictable and more accessible than other RCs (Keenan & Comrie, 1977, as cited in Wang et al., 2011). Another possible reason could be due to the frequent occurrence of the subject RC thus making it easy to process (e.g. Wang et al., 2011). The participants also had difficulty in correctly judging items involving SM extraction of genitive RCs. However, the participants’ performance improved with

increased proficiency. A similar trend is evident in LM genitives although the two more proficient groups were similar in their performance on these items. As such, the results obtained in the GJT indicated that with increased proficiency, the participants generally did improve but they did not reach native like level as their scores were below 80% (Wong, 1999, 2002).

CONCLUSIONS

The results of the GJT showed that the L1 Tamil speakers were able to correctly judge English RCs involving SM and LM extraction of subject, direct object, prepositional object, genitive and object of comparison to a certain extent. However, the Elementary participants seemed to have more difficulty identifying the correct grammatical RCs involving extraction of genitive subject/object.

Based on the results obtained in the GJT, it can be assumed that the interlanguage of the Elementary level participants is still in the initial stages. At the early stage, L2 learners seemed to have difficulty with the L2 grammar; hence, their early interlanguage constructions are often fragmentary. Within this limitation, L2 learners attempt to embed sentences to produce RCs by combining all the words present in the sentences (Schwartz & Sprouse, 1996). However, the mean scores of the GJT for Elementary level participants showed that they still have not acquired the English RC structure accurately.

The results provide evidence that the head parameter or branching direction is not problematic for the participants,

in particular, the more proficient ones. Similar studies conducted by Flynn with Japanese learners (Japanese being a head final language) have provided evidence that the participants of her study attempted to organize the L2 grammar around the head initial configuration of English (Flynn & Espinal, 1985). The results of this study suggested that the participants were not trying to map the head final property of their L1 onto the L2 grammar. Unlike English, Tamil is a postposition language, where postposition words may occur as free postpositions or bound postpositions. According to Perpiñán (2008), prepositional object RCs are difficult to acquire due to the complexity involved in its construction which increased cognitive and processing load while Chang (2004) argued that participants' scant knowledge in the structure of the prepositional phrase might make it difficult to understand the need for a preposition. In this study, these two reasons seemed to have contributed to the outcome of the results.

The participants in this study generally could correctly judge subject RCs (both active and passive) involving SM and LM. However, it is evident that they had difficulty judging the genitive and prepositional object RCs. In particular, the Elementary level participants had difficulty in judging these grammatical items (Table 2). Even the Advanced level participants' performance was not native like in judging RCs involving LM extraction of prepositional objects and genitives. Zhang et al. (2008) explained that the genitive relative pronoun *whose*

was unique and it would be easy to acquire only if the learners could figure out the possessive relationship between the head NP and subject of RC.

In addition, the participants' performance in judging the ungrammatical items was poor as the overall mean scores for these items are rather low compared to the overall mean scores of the grammatical items (refer to Tables 2 and 3). A number of the ungrammatical items which were constructed in line with the participants' L1 (Tamil RCs) were accepted by them as grammatical in English. This is because RCs involving non *wh*-movement is acceptable in their L1. In the case of RCs with resumptive pronoun, the number of participants who accepted these items decreased with increased proficiency in the target language. In this case, the non *wh*-movement option could be the default setting (see e.g. Schachter, 1990, for similar results) in the participants' L1. A logical explanation is that since the Tag RC in Tamil is used principally in the colloquial variety (Lakshmanan, 2000), it is not unreasonable to assume that the L1 Tamil speakers would have been exposed to this RC type in their input from infancy. As such, this could have formed the default setting for RC formation in their L1.

Generally, the participants have exhibited their ability to correctly judge grammatical English RCs. The data suggested that the rural secondary and post high school L1 Tamil speakers had acquired English RCs in stages. The rate of errors as indicated in the data decreased

with increase in proficiency in the English language. This indicated that the participants seemed to have the ability to restructure the parameter in Tamil RC construction to that of English RC construction as the L1 has made available both options, $\pm wh$ -movement, although the default is $-wh$ -movement. As the participants' proficiency improved, they were able to judge and by extension, produce grammatical English RCs gradually. As Hawkins (2001) proposed, constant and more importantly, sustained exposure to the target property of the L2 can and do lead to greater accuracy in judgement of the property. This seems to be the case here. However, the participants' overall performance in the ungrammatical items showed that they were not able to reject these items efficiently compared to their ability to correctly accept the grammatical items.

Taken together the findings here indicate that the process of restructuring which seemed to have taken place in the participants when they were judging the correct grammatical items did not take place when they were judging the incorrect ungrammatical items. This suggests that the participants' underlying RC structure was still the Tamil Tag RC (non *wh*-movement) as discussed earlier. The results for the resumptive pronoun and *wh*-island RCs seem to support this although there is a proficiency related progression.

The results of the ungrammatical English RCs which were constructed in line with the RC structure of the participants' L1 (Tag RC) showed that the participants may not have

acquired the functional features associated with the categories in the formation of the English RC. The participants' underlying mental representation reflected that they are still resorting to the RC structure of their L1 due to their lower rejection levels of the ungrammatical items compared to the grammatical items. What seems to have occurred is due to L2 English input over the years, the participants had managed to learn to structure the grammatical items appropriately. Hence, it can be concluded that the findings of this study support the Failed Functional Features Hypothesis as proposed by Hawkins and Chan (1997).

As mentioned earlier, the selection of the participants of this study was done to ensure the reliability of this study. It was a difficult task to locate participants based on the preset criteria, i.e. they must be L1 Tamil speakers who are currently residing (younger participants) or had resided (adult participants) in areas where Tamil is spoken as L1 and used as the main medium of communication at home. As such, although it was not as difficult to select the Elementary level sample (98 participants), it was definitely a challenge to select the Intermediate level sample (22 participants) and the Advanced level sample (25 participants). Hence, it is recommended that further similar studies involving L1 Tamil speakers be carried out with a bigger sample with varying proficiency levels in order to confirm the outcome of this study.

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Appendix A (Instruments)

Grammaticality judgement test

Sample of Grammatical items

1) *Extraction from matrix clauses - short movement*

a) Extraction of subject (active)

The animal which attacked our chicken is a fox.

b) Extraction of subject (passive)

The drawing which was painted by Rahim is beautiful.

c) Extraction of direct object

The man whom Ali hit is Ahmad.

d) Extraction of preposition object

The magazine which Siti sent her story to is Readers Digest.

e) Extraction of genitive

Balan whose finger was broken could not play hockey anymore.

f) Extraction of object of comparison

The boy whom Ganesh ran faster than is Rahim.

2) *Extraction from embedded clauses - long movement*

a) Extraction of subject (active)

The woman who I heard likes cooking is Rani.

b) Extraction of subject (passive)

The ring which the police say was stolen by thieves is a diamond ring.

c) Extraction of direct object

The teacher whom the students say Ali pushed is Mr. Raduan.

d) Extraction of preposition object

The student whom we assume Raja planned the festival with is Bala.

e) Extraction of genitive

Ramu whose shirt we believe is torn has gone home.

f) Extraction of object of comparison

The boy whom we think Raju is more intelligent than is Ganesh.

Sample of Ungrammatical items

A) Relative Clauses with Resumptive Pronouns

a) Extraction of direct object

The computer which Ali bought it is a HP.

b) Extraction of preposition object

The officer whom I sent the letter to him is Mr. Idris.

c) Extraction of object of comparison

The girl whom Savitha is more intelligent than her is weak in mathematics.

B) Subjacency Violations

a) Extraction from Wh-Islands

i) Extraction of subject

The boy who they wonder whether talks the most is Ganesh.

ii) Extraction from direct object

The teacher whom they ask whether Azrul kicked is En.Azman.

iii) Extraction from preposition object

The man whom they wonder when Suseela will go out with is Murthi.

iv) Extraction of object of comparison

The boy whom they wonder whether Ganesh ran faster than is Ashwin.

C) Extraction from Complex Noun Phrase

i) Extraction of subject

active

The driver who they made the claim drives a bus is Mr.Maniam.

passive

The curry that I heard the news was cooked by your mother is very tasty.

ii) Extraction of direct object

The man whom they read the news the student hit is Mr.Samy.

iii) Extraction of preposition object

The man whom we heard the story Suseela goes out with is Murthi.

iv) Extraction of object of comparison

The boy whom we heard the story Darmen runs faster than is Prasanth.

v) Extraction of a 'doubly-filled' CP

Mrs.Sarah who that teaches Mathematics always comes early to school.

vi) Extraction of ungrammatical null subjects in embedded clauses

My niece cried when lost her Barbie doll.

Sample of Grammaticality Judgement Test

Instructions :

Read the following sentences and write down either 1,2,3, or 4 in the brackets provided.

Given below are the scale for the numbers:

1. definitely acceptable
2. probably acceptable
3. probably unacceptable
4. definitely unacceptable

1. The animal which attacked our chicken is a fox. []
2. Ramu whose shirt we believe is torn has gone home. []

Appendix B

Participant Selection Form

Provide information at relevant columns

Part A

Name: _____

Age: _____

Secondary School: _____

First Language: _____

Main Communication Language: _____

Part B

Name of University: _____

Faculty: _____

Semester: _____

Part C

Profession: _____

Address: _____

Visits to English speaking countries

Name of country : _____

Duration of stay : _____

Purpose of visit : _____

Contacts in the countries visited: _____

Frequency of visit : _____

(The participants selected from the two secondary schools (G1 and G2) at the point of the selection of participants for the study did not attend any tuition class for English language.)