

THE USE OF CLASSIFIERS IN VIETNAMESE IN TYPICAL AND ATYPICAL LANGUAGE DEVELOPMENT

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ABSTRACT

The acquisition of numeral classifiers and their associated syntactic structures has been documented and studied in a broad range of East and Southeast Asian languages among typically-developing (TD) young speakers. However, little research has considered how classifiers are acquired by children with developmental language disorder (DLD). The current paper compares and analyzes the development of numeral classifier patterns among a set of Vietnamese speakers, TD and DLD, studied over three years, from kindergarten to second grade. The investigation highlights differences in the performance of children with TD and DLD and describes the areas of classifier use that seem to be most challenging. Children with DLD produced more errors of classifier omission in kindergarten, showed more random alternations in representational forms, and delays in the development of three element classifier structures. Findings are discussed in terms of future directions in the study of classifier use in Vietnamese speakers with DLD.

Keywords: Developmental language disorder, DLD, specific language impairment, longitudinal design, acquisition, narratives *

*Data collection funded by NIH K23DC014750; manuscript preparation supported by NIH R01DC019335, awarded to the first author.

1. INTRODUCTION

This paper describes and analyzes patterns of classifier use among young speakers of Vietnamese with typical development (TD) and developmental language disorder (DLD²). The goal of the study is to establish a baseline characterization of potential differences between TD and DLD in children's use of numeral classifiers, and how control of this complex aspect of Vietnamese grammar may undergo change over time in TD and DLD populations. While there are a number of studies of the acquisition of classifiers in East and Southeast Asian languages in typically developing children (Gandour, Petty, Dardarananda, Dechongkit, and Mukngoen 1984; Lee and Lee 2005; Liu 2008; Tran 2011; Yamamoto 2000), little is known about the command of classifiers among speakers who exhibit a language disorder, and whether there are regularly occurring distinctive features of classifier use among young speakers with DLD.³ The present paper sets out to address this largely uncharted area and provide a first characterization of how classifier structures are produced in Vietnamese DLD as a basis for the further cross-linguistic investigation of classifiers in other East and Southeast Asian populations.

2. PHAM ET AL.'S (2019) TD AND DLD LANGUAGE CORPUS

Pham, Pruitt-Lord, Snow, Nguyen, Phạm, Dao, Tran, Pham, Hoang, and Dam (2019) documented the language patterns of children independently characterized as having typical development or DLD⁴ by

² DLD has been referred to as many terms including specific language impairment. Here, we follow international consensus to use the term DLD (Bishop, Snowling, Thompson, Greenhalgh, and Catalise Consortium 2016).

³ The only work on classifier patterns among children with DLD (also called specific language impairment, SLI) we are aware of is Cheung's 2009 study of two speakers of Mandarin Chinese, a group study of Cantonese classifiers by Stokes and So 1997, and a dissertation of classifier patterns among Mandarin-English bilingual children by Du 2014.

⁴ DLD vs. TD distinctions were made on the basis of significant differences in children's use of vocabulary, grammar, and discourse, as well as parental/teacher report. Kindergarten DLD profiles reported in Pham et al., 2019 reflected reduced vocabulary, poorer grammaticality, and shorter utterance length compared to same-aged peers. DLD

means of a story retell task from the Multilingual Assessment Instrument for Narratives (Gagarina, Klop, Kunnari, Tantele, Välimaa, Balciuniene, Bohnacker, and Walters 2012). Here we focus on five pairs of children, with and without DLD, from Pham et al.'s study, individually matched by age (± 1 month) and gender (2 girls, 3 boys). Children ranged in age from 5 years;2 months to 5 years;8 months at the first time point, kindergarten.

In the present study, children completed a different narrative task from Pham et al., 2019, story tell, also referred to as story generation in which the child produces his/her own story, using the wordless picture book *A Boy a Dog and a Frog* (Mayer 1976), which was recorded at three consecutive annual time points, namely kindergarten, first grade, and second grade.⁵ In section 3, we describe and illustrate the ways that classifiers are used by the pairs of children, noting the relative frequency and type of errors that occurred in classifier use (3.1), meaningful and random variation in the use of different classifier-related referential forms (3.2 and 3.3), and the use of syntactically complex classifier patterns (3.4). We also note throughout section 3 how these phenomena undergo change over time in the DLD and TD groups.

Before presenting the results of the analysis of the story tell task, some further information about the actual story itself will help contextualize the patterns described in section 3 which spotlights the use of classifiers in children's referential forms. *A Boy a Dog and a Frog* involves three primary actors/participants – the boy, his dog, and a frog which the boy attempts to catch – and these three individuals are typically referenced at high rates and continually throughout the children's telling of the story. There are also several other inanimate entities depicted in the story line which play some role in the development of the story (e.g. a bucket, a net) and these are referred to by many of the children, though at a lower rate than with the main protagonists. Finally, some pictures in the storybook contain additional backgrounded entities (such as a lake, a tree stump, and

severity ranged from moderate to severe.

⁵ Data from the other five DLD/TD pairs documented in Pham et al. (2019) is partially incomplete for certain time points. For the present study, we therefore make use of the pairs of TD/DLD children for whom a full three-year set of data is available. See Pham, Simpson, and Nguyen (2023) for a growth curve analysis of classifier use with the 10 DLD/TD pairs, a statistical procedure that permits missing data.

a house), which were occasionally mentioned in the children's storytelling but have a lower degree of salience than either the primary or secondary referents. The 'correctness' of the children's use of classifiers in producing noun phrases referring to these individuals/entities (as well as other aspects of the grammaticality of their utterances) was subsequently judged by two adult native speakers of Vietnamese, according to adult norms. A consideration of this rich source of data now permits a range of potential generalizations about differences in classifier use among children with DLD or TD, particularly at time point 1 in the study (kindergarten), as detailed in section 3.

3. CLASSIFIER PATTERNS IN CHILDREN WITH DLD VS. TD

Based on the evidence gathered in Pham et al. (2019) (and Tran's 2011 study with typically developing children), a number of potentially useful observations can be made about the use of classifiers among children with DLD when compared with typically developing children. These relate to classifier errors and their frequency (3.1), the in/stability of referential systems involving classifiers (3.2), use of classifiers with non-primary referents in a storyline (3.3), and sophistication in the use of syntactic structures incorporating classifiers (3.4).

3.1 Classifier errors

In Vietnamese, as in many other numeral classifier languages, classifiers may commonly occur when numerals are combined with nouns, as for example in (1), where the presence of the classifier is obligatory, and the word order must be as shown, with the numeral preceding the classifier, and the classifier (CL) preceding the noun:⁶

⁶ The following abbreviations are used for grammatical elements in the glosses to examples in the paper: CL = classifier, TOP = topic marker, ASP = aspect marker, C = complementizer, NEG = negation, PERF = perfective marker, PASS = passive.

- (1) hai con chó
2 CL dog
'two dogs/the two dogs'

Vietnamese also exhibits a patterning which is less frequently found in other classifier languages – the use of a classifier with a noun in the absence of any numeral, as shown in (2):

- (2) con chó
CL dog
'the dog'

Such 'bare classifier' patterns are also found in certain regional forms of Chinese, Hmong, Bangla, and Assamese (Simpson, Soh and Nomoto 2011), and are very often interpreted as referential definites and used anaphorically to refer back to entities already introduced linguistically into the discourse (Bisang, Walter, and Quang 2020).

Three kinds of classifier-related errors might, in principle, be anticipated to occur in the production of these kinds of classifier structures. First, it is conceivable that young speakers would perhaps produce syntax/word order/semantic errors and create sequences of numerals/classifiers/nouns which depart, ungrammatically, from the adult template *numeral classifier noun*. Second, one might expect that speakers acquiring Vietnamese would at times use classifiers that are not appropriate for the nouns they are being combined with, for example using the 'inanimate' classifier *cái* with an animate noun such as *chó* 'dog' to produce **hai cái chó*. A third type of error that might be predicted to occur is the *omission* of classifiers from positions which require them, for example, the failure to add the classifier *con* into (1) above: **hai chó*. Tran (2011) reports that young, typically developing speakers of Vietnamese produce extremely few errors of the first, syntactic/word order type, and also very few errors of the second semantic type, very rarely using the 'wrong' classifier for a noun. The majority of classifier errors found by Tran in her extensive study of TD acquisition patterns were of the third type, with children leaving the classifier unexpressed in positions where it is required (or felt necessary) in adult Vietnamese. For further, general

information about the use of classifiers in Vietnamese, see Pham, Simpson and Nguyen (2023:2-3, section 1.2), and Simpson and Ngo (2018).

This general patterning of errors also turns out to characterize the storytelling data gathered in Pham et al. (2019), both for children with TD and DLD. Neither set of speakers produced any errors of syntax/word order with classifiers, and minimal errors of ‘commission’, using a classifier that was not appropriate for the noun it was combined with. For both TD and DLD, the common error that occurred was omission of classifiers in contexts that were judged to require a classifier in adult Vietnamese. Furthermore, due to aspects of the story itself, these omission errors regularly occurred with the omission of the classifier in positions where adults would produce a bare classifier pattern (illustrated above in (2)) rather than following numerals, as in (1). This was because there were no opportunities for speakers to use numerals other than *một* ‘one’ in their storytelling, as none of the entities in the story occurred in a plurality (i.e. there was just a single boy, a single dog, a single frog etc). When the numeral *một* ‘one’ did occur, in presentational contexts such as (3) below, there were extremely few omission errors. However, it should be added that at the kindergarten level, where most classifier omission errors were found, such sequences of *một* CL N were in fact *only* produced by TD children, and fully absent from the DLD group (see 3.4):

- (3) có một con chó ở đằng sau đi theo
be one CL dog be direction behind go follow
‘There was a dog behind, following.’ TD5.1⁷

Concerning the classifier omission errors that did occur, these were overwhelmingly found in contexts of anaphoric definite reference, where speakers refer to an individual/entity that has already been explicitly introduced into the discourse/storyline. In Vietnamese, bare classifier patterns are very frequently employed for such anaphoric reference as a more explicit form of reference than pronouns (which are less commonly used in Vietnamese than European languages such as English, French and

⁷ The notation used here and in other examples references the speaker identity number and the time point of the utterance, hence TD5.1 tags an utterance made by child number 5 from the typically developing group at time point 1 (kindergarten).

German). This is illustrated in (4), where TD7 uses the bare classifier expression *con ếch* [CL frog] ‘the frog’ to refer back to the frog which was introduced in the preceding sentence, in which ASP is used to denote aspect:

- (4) đúng lúc đấy thì thấy có một con ếch đang đậu ở trên lá sen.
time that TOP see be one CL frog ASP wait there on leaf lotus
‘Then (he) saw there was a frog on the lotus leaf.’
cậu bé định bắt con ếch.
CL boy plan catch CL frog
‘The boy planned to catch the frog.’ TD7.3

The same speaker at time point 1, however, produced the inappropriate continuation shown in (5) where a bare noun *ếch* ‘frog’ was used to refer anaphorically back to the frog introduced in the preceding sentence, and this is judged unacceptable and classified as an error of classifier omission – the speaker should have used a bare classifier phrase in this context, as in (4).⁸

- (5) nhưng có một lúc bạn ấy bạn đang nhìn thấy một con ếch .
but be 1 moment friend that friend ASP look see one CL frog
‘But then the friend is looking at a frog.’
#thì bạn ấy bạn chạy ra bắt ếch
C friend that friend run out catch frog
Intended: ‘The friend ran out to catch the frog.’⁹
Communicated: ‘The friend ran out to catch frogs/a frog.’ TD7.1

(6-8) show further examples of classifier omission from the DLD/TD corpus discussed in Pham et al. (2019). In all cases, the speaker incorrectly used a bare noun in situations of anaphoric definite reference, where adult

⁸ The symbol # is used to signal that a sentence/phrase is inappropriately expressed for its intended meaning. TNS denotes verb tense in example (7).

⁹ The characterization ‘Intended’ here and in other examples is used to signal that there is only one meaning that could have plausibly been intended by the speaker given the context of the utterance, and this ‘intended meaning’ is at odds with what the speaker’s words actually convey – the ‘communicated’ meaning.

speakers would use a classifier + noun combination. This error patterning was particularly pronounced at time point 1, and speakers who exhibited high rates of classifier omission in kindergarten increasingly switched to the adult-like use of bare classifier forms over time. For example, DLD1 produced 34 classifier omission errors at time point 1, 12 errors at time point 2, and 5 at time point 3. Similarly, DLD3 transitioned from 17 errors in kindergarten to only one omission error at time point 3.

- (6) #ếch nhảy lên đá, và #chó sắp rơi xuống nước
frog jump up rock and dog ASP fall down water
Intended: 'The frog jumped up onto the rock, and the dog is about to fall into the water.' DLD1.1
- (7) #cậu bé đã chụp được chó
CL boy TNS catch able dog
Intended: 'The boy caught the dog.' DLD3.1
- (8) #mà không nói một câu gì với ếch
but NEG say one word any with frog
Intended: 'But (he) didn't say a word to the frog.' TD6.1

It can also be noted that the omission of classifiers regularly occurred in a full range of syntactic positions (subject, object and object of preposition positions, as can be seen in the representative examples above), and did not cluster in any particular position or differ in any significant way relative to syntactic position in the DLD and TD groups (i.e. both groups produced a similar proportion of omission errors in different syntactic positions).¹⁰

In terms of the overall rate of classifier omission found in the DLD and TD groups as a whole, clear differences occurred, and the omission of classifiers was much more pronounced in the DLD group, especially in kindergarten, with speakers with DLD producing over twice the number of omission errors at time point 1, on average, than TD speakers (total

¹⁰ The DLD group produced a total of 44 omissions in subject position, 31 in object position, and 16 in object of preposition position, and the TD group produced 19 omissions in subject position, 15 in object position, and 9 in object of preposition position.

errors: DLD: 62 vs. TD: 30). While the speakers with DLD reduced their omission rate over time, at time point 3 they were nevertheless still making twice the number of omission errors than their TD peers (total errors: DLD: 14 vs. TD: 6), due to improvement by the latter group over time. Consequently, from the data gathered in Pham et al.'s (2019) investigation, it would seem that speakers with DLD are, on average, prone to a sustained higher rate of classifier omission than typically developing children, throughout their early years of schooling, although there is improvement among speakers with DLD over time.

Two further points can be made about classifier omission as they occurred in the corpus studied here. First, there was clear individual variation in speakers' omission rates, both in the DLD and the TD groups. Hence there were some speakers in both groups who omitted classifiers considerably more frequently than others. Second, there were certain specific contexts which caused omission errors to occur quite distinctively across multiple speakers. The first of these was the use of the bare noun *ếch* 'frog' following the verb *bắt* 'catch', resulting in the sequence *bắt ếch* 'catch frog' at points in the storytelling when the speaker would have been expected to use a classifier with the noun, as its reference had already been established and would be naturally coded by adult speakers with the sequence *bắt con ếch* [catch CL frog] 'catch the frog', as already illustrated in example (5). This error was found with 6/10 of the speakers, and for two of the speakers (one TD and one DLD), this was actually the only classifier omission error in all of their storytelling at time point 1 (one token each). It is possible that this specific error might stem from the influence of other verb + noun pairs which are learned as lexical units and used very frequently in Vietnamese, for example *ăn cơm* [eat rice] 'eat', *làm việc* [do work] 'work'. Speakers in the study may have produced *bắt ếch* as a similar, single meaning unit without reflecting on the need to individualize the object by means of a classifier. A second potential cause of the error may be the effect of prosody and a preference for bisyllabic structures among children acquiring Vietnamese noted in Tran (2011). A two-syllable verb + noun sequence (*bắt ếch*) might have been favored by speakers over the three syllable unit (*bắt con ếch*) due to this preference for bisyllabic structures. Some interesting support for such a speculation comes from the observation that three of the six speakers who produced

bắt ếch in inappropriate positions introduced the classifier (correctly) before *ếch* when a longer sequence was produced with a 2 x 2 syllable structure (i.e. two sequential phrases, each consisting in two syllables). This resulted in all three speakers producing the sequence *bắt được con ếch* [catch can CL frog] ‘able to catch the frog’ during the same part of the storytelling that they incorrectly used *bắt ếch*. For example, speaker TD7 produced (9) below shortly after producing the pair of examples in (5) (with *bắt ếch*), and speaker TD5 produced the sequence of sentences in (10a-c) within a portion of the speaker’s telling of the story:

- (9) rồi lúc đấy bạn không bắt được con ếch
then moment that friend not catch able CL frog
‘Then, at that time, the boy didn’t manage to catch the frog.’ TD7.1
- (10) a. xong rồi con ếch buồn
 then CL frog sad
 ‘Then the frog was sad.’
 b. #cậu bé định bắt ếch
 CL baby intend catch frog
 ‘The boy wants to catch the frog.’
 c. xong rồi cậu bé không bắt được con ếch
 then CL baby not catch able CL frog
 ‘Then, the boy didn’t manage to catch the frog.’ TD5.1

It may be useful to consider the potential effects of prosody and bisyllabicity in further studies of classifier use and omission, as in Tran (2011).¹¹

¹¹ The possible effects of prosodic rhythm of bisyllabicity might also extend to a second common error found in the corpus, which was the omission of a classifier following a preposition. This is illustrated in (i). Here the classifier *con* was omitted before *ếch* ‘frog’, resulting in a bisyllabic constituent *với ếch* ‘with frog’ in place of a (grammatical/appropriate) three syllable sequence *với con ếch* [with CL frog] ‘with the frog’.

(i) #mà không nói một câu gì với ếch
but NEG say one word what with frog
Intended: ‘.but didn’t say a word to the frog.’ TD6.1

Finally, as we are here summarizing patterns of classifier omission in the DLD/TD corpus, and these regularly involve the use of a bare noun in place of a classifier + noun combination in contexts of definite anaphoric reference, some comments are called for on the use of bare nouns with definite reference in adult Vietnamese. As regularly noted in the literature, the common, dominant mode of representation of anaphoric definite reference is via the use of a classifier paired with a noun (if a pronoun is not employed), the so-called bare classifier pattern (see Bisang et al. 2020 among others). However, it has also been noted (see in particular Phan and Dong 2021) that bare nouns may sometimes be acceptable in contexts of definite reference, including those involving anaphoric reference. An example of this, (slightly) adapted from Phan and Dong (2021) is given in (11):

- (11) a. Mẹ mới mua một cuốn sách cho tôi.
mum just buy one CL book for me
'Mum has just bought a book for me.'
- b. Sách vẫn còn thơm mùi giấy mới.
book still good smell paper fresh
'The book still has the good smell of freshly-printed paper.'

In (11b), the bare noun *sách* is used to refer back to the book introduced in (11a), and speakers find this acceptable (although possibly preferring a form with either the classifier present *cuốn sách* or a demonstrative added after the noun: *sách này* 'book that'). The conditions which permit the acceptable use of bare nouns in contexts of definite anaphoric reference are still not clear and need to be investigated further.¹² What can be said here is that each of the instances of classifier omission noted as errors in the corpus under discussion was judged to be unacceptable in adult Vietnamese by native speakers in the context in which it occurred, hence bare nouns were not felt to be acceptable in these sentences. It is to be hoped that future investigations of Vietnamese will clarify what discourse/structural conditions do license the occasional use

¹² Trinh (2011) actually claims that definite readings of bare nouns are not at all possible in Vietnamese. Ngo (2012) suggests that the acceptability of bare nouns in contexts of definiteness depends on syllable structure and the aspectual type of the predicate.

of bare nouns as anaphors and why such forms are sometimes acceptable to speakers as alternatives to bare classifier forms (see work on similar phenomena in Chinese, and the challenges facing the analysis of different referential forms in anaphoric contexts in Jenks 2018; Dayal Vaneeta and Li 2021; Simpson and Wu 2022). Here we will not attempt to account for why bare nouns were judged to be acceptable by the two adult native speakers in the corpus, and simply note that the forms speakers used were felt to be inappropriate in adult Vietnamese, and emphasize again that both DLD and TD children also converged on the regularized use of base classifier patterns over time in instances of anaphoric reference, in place of their earlier use of bare nouns.

3.2 Systemic (in)stability in referential forms

A second noteworthy property of classifier use among the DLD and TD children relates to the general (*in*)stability of their language systems, as manifested in alternations between different linguistic forms used for the same referent in the story, in particular during kindergarten, before the language of speakers with DLD becomes more like adult Vietnamese in its systematic use of classifiers. In kindergarten, if the special errors noted in 3.1 are set to one side (i.e. the inappropriate use of *bắt ếch* and occasional dropping of classifiers after prepositions, perhaps due to the influence of prosody/rhythm), children from the TD group were generally consistent and accurate in their use of referential forms, using a bare classifier structure (CL + N) for anaphoric reference to a character after it had been initially introduced with either a bare noun or by means of a three element structure ‘one CL N’, as in (12) below:

- (12) a. xong rồi có một con chó đứng đằng sau
done then be one CL dog stand direction behind
‘Then, there is a dog standing back.’
b. con chó nhảy theo
CL dog jump following
‘The dog jumped in.’ TD5.1

This kind of alternation between forms is meaningful, reflecting the changing referential status of characters/entities as they are first referred to and then referenced anaphorically, with appropriate representations signaling their indefinite or definite status (bare nouns, one CL N sequences, bare classifier forms).

In frequent contrast to this, however, a dominant pattern found among the children with DLD in kindergarten was a much more random alternation between bare nouns and CL N sequences without this corresponding to or signaling differences/changes in a character's referential status. This is illustrated in (13), which shows how DLD3 switches between different forms to refer to the frog in the story in an apparently random way. DLD3 first introduces the frog with the form *một ếch* 'one/a frog' (which is actually ungrammatical, as a classifier should occur following *một*), then uses the bare noun *ếch* to refer to the frog (inappropriate, as the frog's reference has been established at this point, and so should require a bare classifier structure), subsequently switches to a bare classifier form *con ếch* 'CL frog', and then returns to referring to the frog with a bare noun *ếch*:

- (13) a. ngày xưa ngày xưa có một *ếch với con chó
Once upon a time be one *frog and CL dog
'Once upon a time there was a frog and a dog.'
- b. ..#ếch nhìn thấy
frog look see
Intended: 'The frog looked on.'
- c. ...xong con ếch sang kia
then CL frog go there
'Then the frog went over there.'
- d. ...#xong ếch ở đá
then frog be.at rock
Intended: 'Then, the frog is on the rock.' DLD3.1

This kind of alternation was heavily present in a majority of the speakers with DLD at time point 1, kindergarten. While most speakers became more adult-like and consistent in their use of referential forms

during time points 2 and 3 (first and second grade), for one speaker, DLD1, seemingly random switches continued to occur through time point 3 (second grade), with the speaker referring to the frog in the following sequential way during the telling of the story: *một con ếch > ếch > con ếch > ếch* (one CL frog > frog > CL frog > frog). By way of contrast, only one member of the TD group showed a similar patterning at time point 1, with just one referent. Quite generally, then, children with typical development appear to be swifter in their adoption of consistent, adultlike referential forms and much less prone to random alternations in the linguistic representation of characters in a story.

3.3 Classifier use with non-main protagonists in the storyline

Due to the nature of the story *A Boy, a Dog and a Frog*, children recounting the story refer to the three main characters repeatedly throughout the story, and it is in these instances of reference that most of the occurrences of classifiers are regularly found. However, in addition to the boy, the dog, and the frog, reference was also made to other, more background entities in the story, as illustrated in (14-16), individualizing these nouns/referents with the use of classifiers:

- (14) cậu bé mở cái chậu
CL baby open CL pot
'The boy opens the pot.' T3.1
- (15) rồi cô bé cầm cái vợt
then CL baby hold CLnet
'Then the child holds the net.' DLD5.1
- (16) cậu bé trèo lên cái cây
CL baby climbs up CL tree
'The boy climbs up the tree.' TD6.2

Comparing the DLD and TD groups with regard to classifier use with non-main protagonists (characters or objects in the story that move the plot along, albeit in a secondary role), a broad difference emerges, with a

significantly higher rate of classifier-mediated reference to secondary, background elements being made by typically developing children. Calculating the number of different nouns other than the boy, the dog, and the frog expressed with classifier structures, members of the TD group mentioned such referents at a rate which was 64% higher than the speakers with DLD, averaged over the three time periods. The TD children were therefore creating linguistically richer stories, on average, than the DLD group, going beyond reference to the main characters in the story and using classifier phrases to highlight additional storyline content to a greater degree than the TD group. Whereas some reference to the boy, the dog, and the frog was (practically) inevitable for all speakers retelling the story, the optional mentioning of other, more backgrounded entities at higher rates among the TD speakers may be seen as demonstrating increased linguistic creativity and (perhaps) greater confidence in the use of language by TD children in comparison to those experiencing DLD.

3.4 Classifiers in complex, three element structures

A final classifier-centered patterning which seems to show very clear differences in DLD and TD children acquiring Vietnamese (based on the performance of the speakers documented by Pham et al. (2019)), involves the combination of classifiers in nominal structures containing three distinct elements – the addition of either a numeral or a demonstrative to a classifier + noun pair, as illustrated in (17):

- (17) a. numeral + classifier + noun b. classifier + noun + demonstrative
 một con chó con chó này
 1 CL dog CL dog that
 ‘a/one dog’ ‘this dog’

Both such forms occurred in the storytelling corpus, as seen in (18) and (19) below, but were used at a much higher rate by TD speakers – on average over 2.5 times more frequently over the three time points.

(18) lúc đẩy con ếch đã ra một hòn đá
moment that CL frog PERF go out one CL rock
'At that point, the frog went onto a big rock.' TD7.1

(19) con ếch ở trên cái cành cây kia
CL frog be on CL branch tree that
'The frog was on that tree.' TD1.1

These three element structures have a greater syntactic complexity than simple classifier + noun pairs¹³, and the ability to correctly and confidently produce such patterns shows growing sophistication in speakers' development and control of nominal syntax.

A particularly striking aspect of the distribution of these structures in the DLD/TD corpus is their heavily imbalanced presence at time point 1. When recorded in kindergarten, there was almost no use of three-element forms by speakers with DLD – only one occurrence among all five speakers. By way of contrast, all five TD speakers used three-element structures multiple times in kindergarten – in total, 22 occurrences and an average of 4.4 uses per speaker/storytelling. This very sharp difference in the spontaneous use of three-element classifier forms in kindergarten among TD and speakers with DLD (at least, in the context of storytelling) therefore patterns as a consistently strong marker of TD vs. DLD language ability/performance which it will be useful to track in future studies. It is also relevant to note that the use of such structures showed improvement over time among the speakers with DLD, with all five speakers starting to use these forms from time point 2 onward, though still with less frequency than the TD speakers. The acquisition of these more complex nominal patterns consequently has the general profile expected for children with DLD, being an aspect of linguistic competence that emerges later than with TD children, but subsequently shows steady consolidation over time.

¹³ For detailed discussion of the syntactic structure of noun phrases in Vietnamese, and how numerals and demonstratives are syntactically combined with classifiers and nouns, see Nguyen (2004).

4. POTENTIAL CORRELATIONS WITH THE DEVELOPMENT OF OTHER GRAMMATICAL MORPHEMES

Before summarizing the findings of this preliminary study of classifier use among Vietnamese children with and without DLD, we will briefly comment on the use of other grammatical morphemes in the DLD/TD corpus and whether there might be any parallels with the development of classifier syntax in the DLD and TD populations examined by Pham et al. (2019).¹⁴ Specifically, we ask if differences between DLD and TD speakers in their use of classifiers might be matched by differences in the use of morphemes encoding tense/aspect, passive-marking, and/or the use of clausal connectives (complementizers).

The two most frequently used tense, aspect, and mood (TAM) markers in the corpus were the progressive aspect marker *đang*, illustrated in (20), and the perfect marker *đã* (Phan and Duffield 2019) seen in (21):

(20) cậu bé đang đi trên đường
CL baby ASP go on road
'The boy is walking along the road.' DLD7.1

(21) nhưng cậu bé và con chó đã nhìn thấy con ếch
but CL baby and CL dog PERF see CL dog
'But the boy and the dog saw the frog.' DLD1.2

The element *đang* was used quite frequently by both DLD and TD children at all time points, and there was no sign of any difference in the acquisition of *đang* among the DLD and TD children. In fact, the DLD group used *đang* more frequently than the TD speakers (a total of 57 times (DLD), vs. 21 times (TD)). The perfect morpheme *đã* was also used quite frequently by both DLD and TD children at all time points, and, similarly, there were no obvious indications of DLD/TD differences in the acquisition of *đã* within the corpus. However, as with *đang* there was a frequency difference with *đã*, which was the opposite from *đang*, with TD

¹⁴ Thanks to Nigel Duffield (personal communication) for encouraging us to look at possible correspondences in the development of other grammatical morphemes across nominal and clausal domains among DLD and TD speakers.

children using *đã* at a higher overall rate than the children with DLD (a total of 39 uses (TD) vs. 22 uses (DLD)).¹⁵

Additionally, both DLD and TD speakers frequently used the passive-like morpheme *bị*, as illustrated in (22).¹⁶ Every speaker used *bị* at least once and for most speakers it was used from kindergarten on, but as with *đang* and *đã* there were no obvious DLD/TD distinctions.

- (22) *cậu bé bị ngã xuống ao*
CL baby PASS fell descend pond
'The boy fell into the pond.' DLD6.1

Considering the patterning of *đang*, *đã* and *bị* in the DLD/TD corpus, there is no evidence to suggest a correlation between speakers' ability to use classifiers correctly and their use of TAM markers and passive *bị* - although there are significant differences between the DLD and TD groups in the area of classifier syntax and use, there do not seem to be similar differences between the two groups with regard to *đang*, *đã* and *bị*. However, it should be noted that a primary measure of speakers' acquisition of classifiers is the omission of such elements, which measures the (ungrammatical) *absence* of an element, whereas the characterization of *đang*, *đã* and *bị* presented above monitors the *presence* of these morphemes (as TAM elements are mostly optional in Vietnamese and ungrammaticality is not caused when such morphemes are not present). The comparison is therefore somewhat imbalanced in nature, though still potentially informative.

In contrast with the use of *đang*, *đã* and *bị* in the corpus, the distribution of the connectives *vì* 'because' and *khi* 'when' did show significant differences among the DLD and TD groups. When the presence of these two elements was tracked across the three time points, it was found that TD speakers used these morphemes considerably more

¹⁵ Other TAM markers such as *sẽ* (future tense), *sắp* (imminent action) and *đã* (already) occurred much less frequently and were only used by a very few speakers.

¹⁶ This element patterns in many ways like Mandarin *bei*, but may also occur with a following intransitive verb, signaling that the subject suffers an unwelcome action (see Simpson and Ho 2013).

frequently than speakers with DLD, as represented in Table 1 and illustrated in (23) and (24):

Table 1. Total occurrences across time points 1-3

Item	DLD group	TD group
vì ‘because’	3	11
khi ‘when’	6	17

- (23) thật bực mình vì không bắt được con ếch
 truly angry self because not catch able CL frog
 ‘(He) was really angry with himself because (he) couldn’t catch the frog.’ TD7.1
- (24) khi con chó và cậu bé nhìn thấy con ếch ộp thì cậu bé chạy ra bắt con ếch ộp
 when CL dog and CL baby see CL frog then CL baby run out catch CL frog
 ‘When the dog and the boy saw the frog, the boy ran out to catch the frog.’ DLD6.1

Two other generalizations relating to *vì* and *khi* which emerge from the corpus are the following. First, every TD speaker used *vì* and *khi* at some time point, whereas only 3/5 of the speakers with DLD ever used *vì* (and only used it once), and only 2/5 of the speakers with DLD used *khi*. Second, at time point 3, only one DLD speaker used one of these two elements, whereas at the same time point *all* the TD speakers used one of these morphemes (or both). There was consequently a clearly elevated rate of use of *vì* and *khi* among the TD group in comparison to the speakers with DLD. As *vì* and *khi* are both used to introduce subordinate clauses, they serve as overt markers of increased grammatical complexity in the clausal domain. During the same period of time in which DLD and TD groups are distinguished in their development of classifiers within the nominal domain, it would seem that DLD/TD speakers’ development of clausal connectives is also developing at different rates, suggesting a possible correlation in syntactic growth in both sentential and nominal

structures which may be worthwhile exploring further, in future studies comparing DLD and TD speakers.¹⁷

5. SUMMARY

Developmental language disorder is a phenomenon which has thus far been investigated predominantly in Indo-European languages¹⁸ and focused on the acquisition of morphosyntax and the accurate use of grammatical elements such as markers of tense and agreement, comparing such patterns with those exhibited by children experiencing a more typical trajectory of (linguistic) development. In order for DLD to be understood more fully in a cross-linguistic context, more studies of typologically and genetically different languages are necessary, with data relating to a broader array of grammatical patterns. This short paper hopes to contribute to current efforts to expand information about how DLD may manifest itself in different languages with its documentation of classifier patterns in DLD and TD Vietnamese. The study has led to the observation of a number of DLD/TD differences in classifier use, including errors of omission, meaningful vs. random alternations in representational forms, and the development of three element classifier structures. This now provides a comparative base for the investigation of DLD/TD classifier patterns in other numeral classifier languages, and for further studies of Vietnamese. With regard to Vietnamese itself, as the present study reports on language used in children's free storytelling, and only involved the use of a small number of different classifiers (ranging from 1-5, with most instances being the use of *con* for animate entities, and *cái* for inanimates), a next useful step will be to try to elicit a wider range of classifiers, experimentally, to see how the broader inventory of classifiers may differ

¹⁷ We also collected data on the use of other connectives and complementizers such as *mà* 'but', *rằng* 'that' and *là* 'that', but there were much less frequent occurrences of these elements (only one or two occurrences across the entire corpus) and so no clear generalizations are possible about differences between the DLD/TD groups.

¹⁸ Though the bulk of the DLD literature focuses on Indo-European languages, DLD has been studied in Asian languages such as Chinese (e.g., Cheung 2009) and Japanese (e.g., Murao, Ito, Fukuda, and Fukuda 2017).

in DLD/TD speakers at different time points. It will also be instructive to see if children with DLD are able to *produce* three element classifier structures in focused experiments (although these were largely absent from the storytelling corpus) and how classifier omission rates may occur in structures using (more) numerals, as the omission patterns in the current study largely relate to the absence of classifiers in the bare classifier structure, where numerals are not present. We hope to engage in this work in future projects.

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[Received 28 May 2022; revised 27 Nov 2022; accepted 22 Feb 2023]

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越南語中量詞的使用: 典型發展以及非典型發展的差異

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關於東亞和東南亞語言中的數字量詞及其相關句法結構的習得問題，文獻上對於典型發展(Typically-developing, TD)的年輕成人有廣泛的研究與記載。然而，關於患有發展性語言障礙(Developmental Language Disorder, DLD)的兒童如何習得量詞的問題，卻極少有研究。本文針對典型發展(TD)的以及患有發展性語言障礙(DLD)的越南兒童，在他們從幼稚園到二年級的三年中，對他們的量詞習得進行比較分析。此研究指出 TD 和 DLD 兒童的表現差異，並清楚描述在不同群體中最具挑戰性的量詞使用句型。

關鍵詞：發展性語言障礙、DLD、縱向追蹤研究、習得、敘事