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The use of classifiers in typically developing and language-delayed preschoolers

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Abstract

This study investigated the use of noun classifiers in typically developing (TD) and language-delayed (LD) Cantonese-speaking preschoolers. A total of 109 subjects were recruited: 3 to 5 year-old preschoolers and adults. Both the story-telling task and picture elicitation task were used. For the TD participants, syntactically they used more types of classifier noun phrases as age increased. Double classifier construction was observed. Semantically, the TD children showed more variations and types of classifiers as age increased. Moreover, overgeneralization of 個 *go3* was observed. For the LD participants, the results revealed that syntactically, the LD participants at age five tended to use more [Dem-CL]$_{NP}$ construction. Semantically, they showed (i) less accuracy on the use of shape classifiers, (ii) less mean proportion use of 隻 *zek3* and (iii) more inappropriate use of 個 *go3* than their TD peers.

The presence of classifiers is one of the major characteristics in Cantonese when compared with other languages such as English. According to Allan (1977:285), classifiers were described as if they 'occur as morphemes in surface structures under specifiable conditions' and 'have meaning, in the sense that a classifier denotes some salient perceived or imputed characteristics of the entity to which an associated noun refers (or may refer)' From the above definition, classifiers are the morphemes which require specific syntactic structures and they carry semantic meanings. Hence, both syntactic structure of classifiers and semantic use of classifiers are important study areas.

Cantonese is a numeral classifier language, in which classifiers are syntactically compulsory after numerals and deictic expressions (Mak, 1991). Szeto (1998) also stated that classifiers occur in an extensive range of noun phrases in Cantonese (see Appendix A), including the usage after a demonstrative, a numeral, a quantifier and a wh-word. According to Mak (1991), numeral classifiers can be categorized into noun classifiers and verb classifiers. Noun classifiers can be further divided into sortal and mensural classifiers. Sortal classifier 'individuates whatever it refers to in terms of the kind of entity that it is' while a mensural classifier 'individuates in terms of quantity' (Lyons, 1977: 463). Only language with the existence of sortal classifiers is considered as a classifier language (Mak, 1991). They classify more nouns than mensural classifiers, and their meanings are relatively oblique.

Mak (1991) identified four types of sortal classifiers, including shape, function, specific

and mixed classifiers. Shape classifiers classify the nouns in respect to the number of

dimensions, flexibility and size. The most six common shape classifiers in Cantonese were

枝 *ji1*, 條 *tiu4*, 張 *zoeng1*, 塊 *faai3*, 粒 *lap1*, 舊 *gau6*. Within-class substitutions

(substitution of a classifier by another one within the same type of classifiers), especially the

one with the same dimension, were frequent in shape classifiers. The function classifiers such

as 把 *baa2* classify nouns with reference to the objects' functions. Within-class substitutions

were rare in function classifiers because the functions signified by the classifiers were unique.

Instead, children used 個 *go3* substitution (would be discussed later) if they did not know the

appropriate function classifiers. Overall, children appeared to use function classifiers more

accurately than shape classifiers.

Specific classifiers have specific meanings on the fixed nouns only, for instance 度 *dou6*

denotes places. Mixed classifiers such as 個 *go3*, 隻 *zek3* are used to classify a number of

unrelated nouns. Loke (1994), as reported by Szeto (1998), stated that *go3* was use to classify

humans, abstract nouns and rounded objects. On the other hand, mensural classifiers involve

standard units of measurements such as 秒 *miu5* 'second', collective such as 啲 *di1* which

refers to quantity, container such as 杯 *bui1* 'cup' and generic classifiers such as 種 *zung2* 'a

kind of' (Matthews & Yip, 1994). The typology was summarized in Appendix B. The present

study concentrated on noun classifiers especially sortal classifiers as they were most

ordinarily used in Cantonese (Tse, Li, & Leung, 2007).

There were different studies examining the use of classifiers. Erbaugh & Yang (2006) explored the use of classifiers in adults. They studied the use of sortal and mixed classifiers in adults when telling the Pear Story. Syntactically, they found that among different types of classifier noun phrases, Cantonese-speaking young women preferred using [CL-N]$_{NP}$ such as 頂帽 *deng2 mou2* 'the hat'. Semantically, overgeneralization of 個 *go3* was noted.

Simultaneously, there was also research on how normal Cantonese-speaking children used classifiers (Chan, 2006; Poon, 1980; Szeto, 1998; Tse et al., 2007). They found that children acquired syntax of classifiers earlier than the semantics (Szeto, 1998; Tse et al., 2007). Syntactically, only few studies examined the use of classifiers in different noun phrases (Chan, 2006; Szeto, 1998). Szeto (1998) found that Cantonese-speaking children from aged 1;05 to 3;08 were able to use classifiers in different noun phrases varying from the simple to the more complex structures. Still they committed structural errors such as word order, single classifier phrase and double classifier constructions. Poon (1980) also found that a five-year-old child produced double classifier construction 一隻棵樹 *jat1 zek3 po1 syu6* 'a tree'. It may imply that the child perceived 棵樹 *po1 syu6* 'tree' as a noun.

For the semantic use of various types of classifiers, Szeto (1998) discovered that among 23-29 types of classifiers, children from age 1;05 to 3;08 used classifiers 個 *go3*, 隻 *zek3*, 啲 *di1*, 度 *dou6* more frequently in spontaneous speech. However, children's use of classifiers did not conform to adult usage even at age six (Poon, 1980). Apart from making within-class

substitution mentioned previously, Szeto (1998) found that children used *go3* more inappropriately than *zek3*. Children used *go3* differently than the adults, that is, children also applied *go3* to nouns such as animals and plants. The overgeneralization of *go3* was commonly noted in other studies (Mak, 1991; Tse et al., 2007). As age increased, children showed more variations and appropriate use of classifiers (Tse et al., 2007).

Albeit there was considerable research on the normal children's use of classifiers, few studies investigated the use of classifiers by comparing normal participants with non-normal ones (Cheung, 2002; Stokes & So, 1997). Cheung (2002) found that children with specific language impairment (SLI) showed a delayed use of classifiers and greater error patterns than the normal peers. Stokes and So (1997) compared the sortal classifier acquisition between 14 language-disordered and 14 age-matched Cantonese-speaking children (mean age 53 months). Syntactically, the research focused on children's use of classifiers in [Num-CL-N]$_{NP}$ construction only through an elicitation task. It restricted the use of other types of classifier noun phrases by the language-disordered and age-matched children. Moreover, while the double classifier construction was noted in some of the normal children (Poon, 1980; Szeto, 1998), there was no report on language-disordered children. Further investigation on double classifier construction between normal and language-disordered children was needed. It may become one of the differential signs between two groups. Semantically, Stokes and So (1997) revealed that two groups were similar on the accuracy of classifiers except for 枝 *ji1*. They

suggested that future study could use a younger age group to further investigate the use of classifiers.

The present study was cross-sectional. It aimed to investigate how the typically developing (TD) and language-delayed (LD) Cantonese-speaking preschoolers used noun classifiers syntactically and semantically in story-telling context and a picture elicitation task. There are two research questions in the present study.

1. What is the developmental trend of the TD Cantonese-speaking preschoolers on the classifier usage? Syntactically, it is hypothesized that they use more types and tokens of classifier nouns phrases with increasing age. Structural errors such as double classifier constructions might be found (Poon, 1980; Szeto, 1998). Semantically, the TD children use more types and tokens of classifiers as age increases. Yet they may show inappropriate use of classifiers, including the overgeneralization of *go3* (Poon, 1980; Szeto, 1998). As age increases, *go3* substitution might decrease as they acquire more appropriate and specific classifiers to classify nouns.

2. Is there any difference between the use of classifiers of the LD preschoolers and their TD counterparts? It is hypothesized that the LD preschoolers use limited types and numbers of classifier noun phrases while TD peers use a wider range of noun phrases. The LD preschoolers may show more double classifier constructions than the TD counterparts. Semantically, it is hypothesized that the LD preschoolers exhibit limited types of classifiers.

They would have a higher frequency and inappropriate use of classifiers, including more

overgeneralization of classifiers *go3* and *zek3* than their TD peers (Stokes & So, 1997).

Method

Participants

A total of 60 (20 in each group) TD Cantonese-speaking preschoolers and 29 LD

Cantonese-speaking preschoolers of age three, four and five were recruited from three local

kindergartens. They were screened by the Reynell Developmental Language Scale---

Cantonese version (RDLS) (Reynell & Huntley, 1987). Participants with language delay were

defined as those who scored lower than 1.25 standard deviations below the mean in the

expressive part of RDLS (Fey, 1986). A group of 20 local University students, who were aged

above 18, were included as reference for comparison. Information of the participants was

summarized in Appendix C. Since only three participants were recruited in the LD

three-year-old group, the group was excluded from analysis due to the limited number of

participants.

Materials

A story-telling task and a classifier task were involved in data collection. Narrative data

was collected through story-telling task because story-telling helped to prompt the

participants' use of noun classifiers in discourse level. The story-telling task was elicited

through the use of a 24-picture wordless picture story book 'Frog, where are you?' (Mayer,

1969). The classifier task, which was a picture elicitation task, was administered to obtain

children's use of appropriate noun classifiers in [Num-CL-N]$_{NP}$ construction such as 兩隻狗

loeng5 zek3 gau2 'two dogs'. Different objects were presented in photos to the participants.

To elicit the [Num-CL-N]$_{NP}$ structure, more than one object was presented (see Appendix D).

The procedure was audio-recorded using a JNC USB250 digital recorder.

Procedures

Parents completed a consent form involving the background information of the

participants such as hearing ability and intelligence. Each participant was seen individually

by sitting perpendicular to the researcher in a quiet room and a standardized language test

was done. The sequence of the two tasks was counterbalanced. The instruction of the story

involved 'Here is a story book about a boy, a dog and a frog. I would like you to read through

it once and tell me the story'. The participant was allowed to read the book once before he or

she was ready to tell a story. Neutral prompts such as 'what is the page about?' were provided

if there was no response. The classifier task was administered by asking the participants 'how

many objects are there?' The nouns were told if the participants were unfamiliar with them.

Reliability

The data was coded by the researcher. Ten percent of the language samples were coded

by another fourth year student in Speech and Hearing Sciences for inter-rater reliability.

Kappa was employed for the point-by-point agreements ($\kappa = 0.945$, *p*<.05). Disagreement

was revolved after discussion.

Data analysis

The analysis of the story-telling task emphasized both syntactic and semantic use of

noun classifiers. Syntactic use of noun classifiers focused on different types of classifier noun

phrases and structural errors. The coding system followed that of Szeto's (1998), utterances

that such as repetition, self-correction, hesitation and unclear noun phrase were excluded in

the analysis (see Appendix E). Semantic use of 個 *go3*, 隻 *zek3*, 啲 *di1*, 度 *dou6* were

analyzed because they were the most commonly used across age groups (Szeto, 1998). The

inappropriate use of 個 *go3*, 隻 *zek3* was also examined. However, 度 *dou6* was excluded

because there was no consensus of the nouns that could be acceptable after it. 啲 *di1* was also

excluded since most of the nouns can be used after this classifier.

For the classifier task, the total of nine trials on the use of six common shape classifiers

枝 *ji1*, 條 *tiu4*, 張 *zoeng1*, 塊 *faai3*, 粒 *lap1*, 舊 *gau6* and three common function

classifiers 本 *bun2*, 把 *baa2*, 間 *gaan1* in [Num-CL-N]$_{NP}$ structure were analyzed. Both the

syntactic and semantic use of classifiers were considered. Thus, participants were given zero

score with syntactic error, one point with inappropriate use of classifiers and two points with

correct syntactic and semantic use of classifiers with the items. Erroneous pattern such as

double classifier construction, 個 *go3* and 隻 *zek3* substitution, within-class and across class

substitution (substitution of a classifier by another type of classifier) were explored.

Regarding the research question about the developmental trend of classifiers in TD

participants and adults, one-way analysis of variance (ANOVA) was used. The Tukey HSD

Test was carried out to find out the source of the difference. For the analysis of the difference

between the TD and LD participants at age four and five, Mann-Whitney U test was carried

out due to the small and uneven group size which violated the ANOVA's assumption.

<center>Results</center>

The developmental trend of syntactic use of noun classifiers

(1) Story-telling task

Regarding the first research question about the developmental trend of classifiers, the

mean types of classifier noun phrases were analyzed and were summarized in Table 1.

Table 1

Mean types of classifier noun phrases used in TD participants and adults in story-telling task

Group	Mean (standard deviation)
TD Age 3	3.35 (1.57)
TD Age 4	4.45 (1.61)
TD Age 5	4.35 (.93)
Adults	5.35 (1.09)

A significant difference was shown on the mean types of classifiers noun phrases used

across age groups (F(3, 76)= 7.56, *p*<.05). The Tukey HSD test reflected a difference

between the TD group at age three and adults. The TD participants at age three used limited

types of classifier noun phrases when compared with adults.

Concerning the number of classifier noun phrases used, the mean proportion of the most

commonly used classifier noun phrases were analyzed across the TD age groups, and the
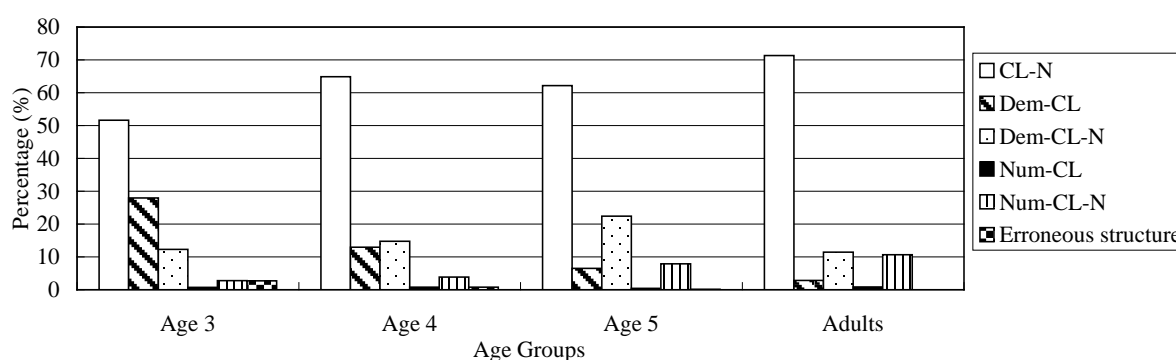
results were summarized in figure 1.

Figure 1. Mean proportion of the most commonly used classifier noun phrases in TD

participants and adults in story-telling task

The analysis revealed that there were significant differences in the use of $[\text{CL-N}]_{NP}$ ($F_{(3, 76)}= 2.79$, $p<.05$), $[\text{Dem-CL}]_{NP}$ ($F_{(3, 76)}= 9.47$, $p<.05$) and $[\text{Num-CL-N}]_{NP}$ ($F_{(3, 76)}= 6.20$,

$p<.05$) construction. For the use of $[\text{CL-N}]_{NP}$, the post-hoc result showed difference between

the TD group at age three and adults. It indicated that the proportion use of $[\text{CL-N}]_{NP}$ in the

TD three-year-old group was fewer than those of the adults. For the use of $[\text{Dem-CL}]_{NP}$, the

post-hoc result suggested that TD group at age three was significantly different from other

age groups. The proportion use of $[\text{Dem-CL}]_{NP}$ structure was more frequent in the TD group

at age three than others. At last, the Tukey HSD test showed that adult group was

significantly different from TD groups at age three and four in the use of [Num-CL-N]$_{NP}$. The

results implied that adults used [Num-CL-N]$_{NP}$ more frequently than the TD participants at

age three and four. No significant results found in other types of classifier noun phrases.

(2) Classifier task

Concerning the syntactic use of classifiers in the TD participants and adults, the use of

double classifier construction was noted in the TD participants. The mean number of

occurrence of double classifier construction was shown in Table 2.

Table 2

Mean number of double classifier construction in TD participants and adults in classifier

task

Group	Mean (standard deviation)
TD Age 3	.40 (.82)
TD Age 4	.00 (.00)
TD Age 5	.00 (.00)
Adults	.00 (.00)

Analysis revealed that there was a significant difference across age groups ($F(3, 76)=$

4.75, $p<.05$). The post-hoc result indicated that the TD group at age three was significantly

different from all other age groups. Hence, TD participants at age three produced double

classifier construction while other group made no structural errors.

Developmental trend of semantic use of noun classifiers

(1) Story-telling task

Regarding the developmental trend of the semantic use of noun classifiers, the results of

the mean types of classifier used were presented in Table 3.

Table 3

Mean types of classifiers used in TD participants and adults in story-telling task

Group	Mean (standard deviation)
TD Age 3	3.55 (1.28)
TD Age 4	4.75 (1.12)
TD Age 5	5.00 (1.12)
Adults	6.95 (1.47)

A significant difference was found on the mean types of classifier across age groups ($F_{(3,}$

$_{76)}= 25.20$, $p<.05$). The post-hoc result indicated that TD group at age three was significantly

different from all other age groups. In addition, the TD groups at age four and five were

significantly different from adults. The results illustrated that the TD participants at age four

and five used more types of classifiers than those at age three, yet fewer when compared with

adults.

For the classifiers 個 *go3*, 隻 *zek3*, 度 *dou6*, 啲 *di1* used, the mean proportion of these

classifiers in the TD participants and adults were presented in Figure 2 on page 15. There

were significant differences in the use of *zek3* ($F_{(3, 76)}$= 4.06, *p*<.05) and *dou6* ($F_{(3, 76)}$= 7.47, *p*<.05). The post-hoc result indicated that TD group at age three was significantly

different from those at age five in the use of *zek3*. The TD participants at age three used fewer

number of *zek3* than those at age five. For the use of *dou6*, the TD group at age three was

significantly different from those at age five and adults. The TD group at age three employed

more *dou6* than those at age five and adults. No significant difference was found in the use

go3 and *di1* suggested that there were similar proportion of *go3* and *di1* across all age groups.
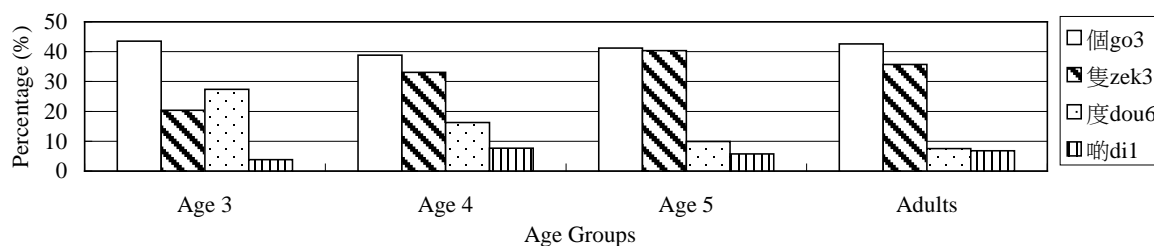

Figure 2. Mean proportion use of four classifiers in TD participants and adults in story-telling task

Next, the inappropriate use of *go3*, *zek3* was scrutinized in the TD participants and

adults. Since seven participants did not produce *zek3* in the task, the analysis involved 73

participants only. The mean proportion of inappropriate use of *go3* and *zek3* was shown in

Figure 3 on page 16. Analysis showed that there were significant differences in the

inappropriate use of *go3* ($F_{(3, 76)}$= 12.33, *p*<.05) and *zek3* ($F_{(3, 69)}$= 2.79, *p*<.05). For the

inappropriate use of *go3*, it was found that TD groups at age three and four were significantly

different from those at age five and adults. This suggested that TD participants at age three

and four used *go3* more inappropriately compared with those at age five and adults.
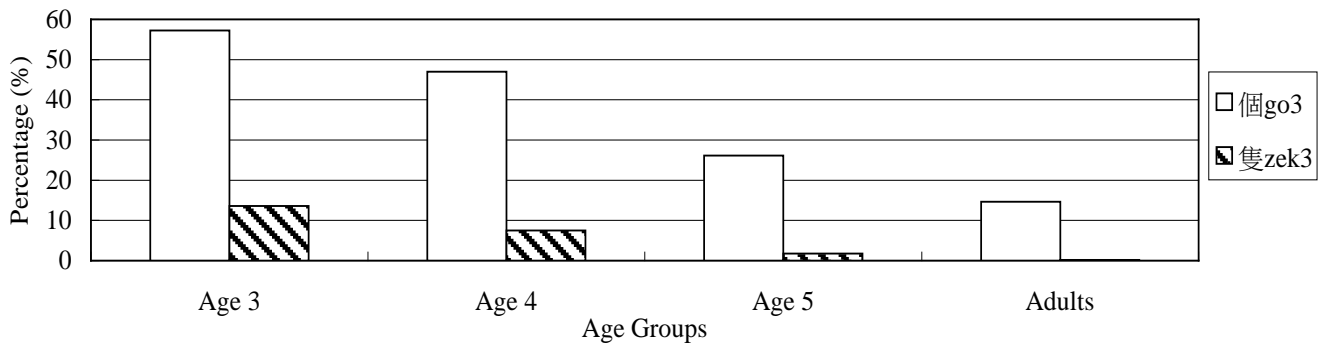

Figure 3. Mean proportion of inappropriate use of *go3* and *zek3* in TD participants and adults

in story-telling task

(2) Classifier task

Concerning the use of six shape and three function classifiers in the TD participants and

adults, the mean scores of the use of these classifiers was presented in Figure 4.

Figure 4. Mean scores of shape and function classifiers in TD participants and adults in

classifier task

The analysis revealed a significant difference in both the use of shape ($F(3, 76) = 61.87$,

$p<.05$) and function classifiers ($F(3, 76) = 60.71$, $p<.05$) across the TD participants and adults.

For the shape classifiers, the post-hoc test showed that each age group differed from others,

which indicated that the accuracy of the use of shape classifiers increased as age increased.

For the function classifiers, the post-hoc test indicated that TD group at age three was different from all other age groups. Moreover, TD groups at age four and five showed significant difference from adults. Hence, TD participants at age four and five used function classifies more appropriately than those at age three but less appropriately than adults.

Regarding the semantic error of classifier usage in the TD participants and adults, the mean number of occurrence of these error patterns was illustrated in Figure 5.

Figure 5. Mean number of occurrence of different error patterns in TD participants and adults in classifier task

The analysis revealed that there was significant difference in *go3* substitution ($F(3, 76)= 55.01$, $p<.05$) and across class substitution ($F(3, 76)= 3.38$, $p<.05$). Yet no significance was found in *zek3* substitution and within-class substitution. All participants had similar pattern of *zek3* and within-class substitution across age groups. For *go3* substitution, the post-hoc test showed that each age group differed from others significantly. The number of occurrence of *go3* substitution dropped deeply as age increased. For the across class substitution, the

post-hoc test showed that TD group at age five was significantly different from adults. In

other words, TD participants at age five used more across class substitution than adults.

Syntactic use of noun classifiers between TD and LD participants

(1) Story-telling task

Considering the second research question about the difference between TD and LD

participants, Mann-Whitney U test showed no significance between TD and LD group at age

four on (i) mean types of classifier noun phrases and (ii) mean proportion of the most

commonly used classifier noun phrases. For TD and LD participants at age five, no

significance was found on the mean types of classifier noun phrases. Yet, there was a

significant difference on the mean proportion use of classifier noun phrase [Dem-CL]$_{NP}$ (U=

66.5, *p*<.05). The LD participants at age five used the structure [Dem-CL]$_{NP}$ more frequently

than the TD group. No other significance was found on the mean proportion use of other

common classifier noun phrases.

(2) Classifier task

Comparing the syntactic use of classifiers in the TD and LD participants, Mann-Whitney

U test showed no significance on the double classifier construction on the TD and LD

participants at age four and five. Hence their error patterns were similar.

Semantic use of noun classifiers between TD and LD participants

(1) Story-telling task

Regarding the second research question about the semantic use of noun classifiers between the TD and LD participants, only the mean types of classifiers was significant between TD and LD groups at age four (U= 69.0, *p*<.05). The TD group at age four used more types of classifiers than their LD counterparts in story-telling task. No significance was found in (i) the mean proportion of classifiers used and (ii) the mean proportion of inappropriate use of classifiers. For TD and LD participants at age five, no significance was noticed on the mean types of classifiers. However, there was significant difference on the mean proportion use of classifier *zek3* (U= 41.0, *p*<.05). TD group at age five used more *zek3* than their LD counterparts in story-telling task. Moreover, Mann-Whitney U test showed a significant difference on the mean proportion of the inappropriate use of *go3* between the TD and LD groups at age five (U= 54.0, *p*<.05). The LD group used *go3* more inappropriately than their TD peers. No significance was noticed on the (i) mean proportion use of other classifiers (ii) inappropriate use of *zek3*. Hence they had similar pattern in these aspects.

(2) Classifier task

With reference to the second question on the semantic use of noun classifiers between the TD and LD groups, no significance was found on the use of shape and function classifiers as well as the error patterns in TD and LD participants at age four. They had similar patterns

on the use of classifiers regardless the language abilities. For TD and LD participants at age

five, the mean rank of shape and function classifiers was illustrated in figure 6.

Mann-Whitney U test showed a significance on the use of shape classifiers (U= 28.0, *p*<.05).

The TD participants at age five used shape classifiers more appropriately than their LD peers.

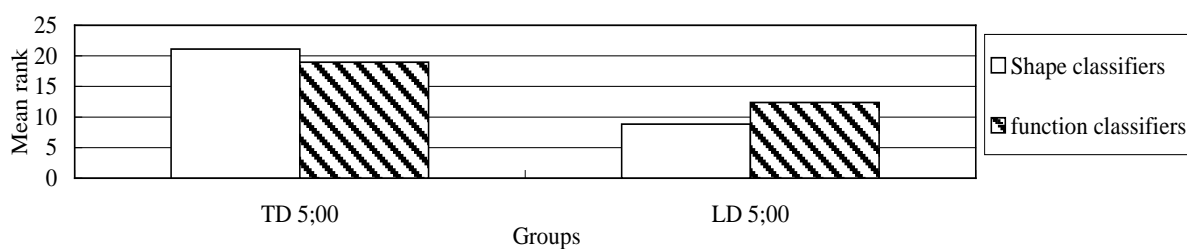No significance was found on function classifiers and error patterns.

Figure 6. Mean rank of the use of shape and function classifiers in TD and LD participants at

age five in classifier task

Discussion

The developmental trend of syntactic use of noun classifiers

Concerning the first research question about the developmental trend of syntactic use of

classifiers, results of the story-telling task revealed that TD participants at age three used

limited types of classifier noun phrases than adults. Similar results were found in Szeto (1998)

and Chan (2006). According to Szeto (1998), children at the early age mainly used classifiers

without the head nouns, such as [Num-CL]$_{NP}$ 兩隻 *loeng5 zek3* 'two (frogs)' and

[Dem-CL]$_{NP}$ 嗰隻 *go3 zek3* 'that (dog)'. Therefore children at age three tended to have

limited types of classifier noun phrases. With the richer development of the classifier

inventory, the more complex types of classifiers noun phrases developed. Hence the adults produced classifiers in a wider range of classifier noun phrases.

Second, regarding the different classifier noun phrases used, the results of story-telling task revealed that adults used relatively more [CL-N]$_{NP}$ structure such as 隻狗 *zek3 gau2* 'the dog' when compared with the TD participants at age three. According to Matthews and Yip (1994), [CL-N]$_{NP}$ was widespread in Cantonese to express definite meaning (which was similar to English articles 'the'). Adults may use [CL-N]$_{NP}$ construction as a strategy to convey definiteness. Such result was further supported the finding by Erbaugh and Yang (2006). They found that 84% of sortal classifiers were used in the [CL-N]$_{NP}$ construction in Cantonese-speaking adults when telling a story. Nevertheless, children at age three was still acquiring the strategy to express definiteness, so they seldom used [CL-N]$_{NP}$ construction when compared with adults.

The analysis also showed that the use of [Dem-CL]$_{NP}$ structure was greater in the TD participants at age three than other age groups. The results were similar to Chan (2006). As pointed out by Szeto (1998), young children used the simplest form of noun phrases such as [Dem-CL]$_{NP}$ while employing other complex classifier noun phrases later. Thus, [Dem-CL]$_{NP}$ was acquired earlier in children at age three. They used this type of noun phrase dominantly. Meanwhile, participants in other age groups acquired other types of noun phrases, therefore they produced various kinds of noun phrases apart from [Dem-CL]$_{NP}$ only.

Considering the use of [Num-CL-N]$_{NP}$ such as 一個男仔 *jat1 go3 naam4 zai2* 'a boy',

adults used this type of noun phrase more frequently in proportion to the TD participants at

age three and four. Szeto (1998) stated that young children mainly used the classifier noun

phrases without head nouns such as [Num-CL]$_{NP}$ construction. As age increased, they learnt

the more complex noun phrases including [Num-CL-N]$_{NP.}$ As a result, the TD participants at

age three and four rarely produced [Num-CL-N]$_{NP}$ structure when compared with adults.

Concerning the structural errors, double classifier construction was noticed in the

story-telling and the classifier task. These errors were also found in Szeto (1998) and Chan

(2006). Double classifier construction, such as 嗰個頂帽 *go2 go3 deng2 mou2* 'the hat',

was observed in the TD participants from age three to five with six instances in the

story-telling task. Moreover the TD participants at age three showed double classifier

construction in the classifier task. It was found that some participants produced double

classifiers 個隻狗 *go3 zek3 gau2* 'the dog' while 隻狗 *zek3 gau3* 'the dog' in the rest of the

story. It can be explained with Poon's hypothesis (1980) that participants may recognize 隻狗

zek3 gau3 as a disyllabic noun.

Developmental trend of semantic use of noun classifiers

Regarding the semantic use of classifiers in the TD participants and adults, the

story-telling task showed that the mean types of classifiers used in the TD participants at age

four and five were greater than those at age three but smaller than adults. The difference may

be due to an age-related growth in types of classifiers (Tse et al., 2007). Children showed

more variations of classifier types as age increased. Nevertheless, children at age four and

five showed fewer types of classifiers than adults. Referring to our data, it was observed that

only adults used some innovated classifiers that were unique in Cantonese, for instance 一

zam6 味 *jat1 zam6 mei6* 'a bad smell'. Consequently, children were still acquiring more

types of classifiers when compared with adults.

Among the types of classifiers 個 *go3*, 隻 *zek3*, 度 *dou6*, 啲 *di1* used in the story-telling

task, the TD participants at age three used fewer number of *zek3* than age five. The findings

were different from Chan (2006), who concluded that there was no significant difference

across the TD participants and adults. This could be due to the substitution of *go3* for *zek3*

(the inappropriate use of classifiers) in the TD group at age three. Details of inappropriate use

of classifiers would be discussed later. On the other hand, the use of *dou6* was more frequent

in TD participants at age three than those at age five and adults. Similar results were found by

Chan (2006). Children at age three acquired a few classifiers including *dou6*, while there

were larger classifier inventories in TD at age five and adults. Accordingly the TD group at

age three produced more proportion of *dou6*, yet others used many other types of classifiers.

For the mean proportion use of classifiers *go3* and *di1*, no significance was found on

these classifiers across the TD participants and adults. Similar results were found by Chan

(2006). For the use of *go3*, Erbaugh and Yang (2006) stated that adults used *go3* even other

classifiers were expected in a discourse setting such as telling a story. However, adults' use of

go3 was different from that of children. Even though they both used the similar number of

go3, adults used *go3* appropriately while children showed inappropriate use of *go3*. The small

proportion use of *di1*, which quantified nouns, across all age groups was due to the emphasis

on the qualities of noun referents rather than quantities in the use of classifiers even in

Cantonese-speaking people (Szeto, 1998).

Because of the limited classifiers in the story-telling task, a classifier task was used to

provide a more comprehensive picture of the developmental trend on different types of

classifiers. It revealed that the mean accuracy of six shape classifiers increased gently from

the participants at age three to adults. Similar findings were found in Stokes and So (1997).

They found that children with mean age 53 months achieved 47% accuracy in shape

classifiers (Stokes & So, 1997). For function classifiers, the results suggested that TD group

at age four and five used three function classifiers more appropriately than TD group at age

three, albeit less appropriately when compared to adults. It implied that even TD participants

at age four and five did not use function classifier in a way similar to adults' pattern. Overall,

the increased accuracy in both shape and function classifiers from children at age three to

adults was due to the more appropriate use of classifiers as age increased (Tse et al., 2007).

Besides investigating the proportion use and accuracy of different classifiers, the present

study focused on the semantic errors of classifiers. The story-telling task studied the

inappropriate use of 個 *go3* and 隻 *zek3*. For the inappropriate use of *go3*, the results indicated

that the TD participants at age three and four produced *go3* more inappropriately than those at

age five and adults. The classifier task was also used to examine the error pattern including

go3 substitution, *zek3* substitution, within-class and across class substitution when producing

shape and function classifiers. No significance was found in *zek3* substitution and

within-class substitution. Thus, TD participants made similar number of *zek3* substitution and

within-class substitution as adults. The number of occurrence of *go3* substitution declined

significantly as age increased. Similar results were found in Poon (1980). G*o3* substitution

decreased as more appropriate classifiers were acquired from children at age two to adults.

The classifier task also indicated that across class substitution, which was the substitution of a

classifier by another type of classifier, was used more frequently in TD participants at age

five than adults. Consequently, the across class substitution used in the participants at age five

did not conform to adult patterns. Stokes and So (1997) mentioned that some children with

advanced knowledge of classifiers may make across class substitution errors. Nevertheless, it

was not an adult-like usage as adults rarely or even did not use across class substitution.

Syntactic use of noun classifiers between TD and LD participants

     For participants at age five, the LD group used the structure [Dem-CL]$_{NP}$ more

frequently than TD peers in the story-telling task. This may be related to the different

acquisition rate of classifier noun phrases. Szeto (1998) pointed out that children used simple

noun phrases [Dem-CL]$_{NP}$ first before other complex noun phrases. The TD group acquired

various noun phrases while the LD group acquired the simple noun phrases only at age five.

Thus, the LD group used [Dem-CL]$_{NP}$ structure more in proportional than the TD peers as the

former one learnt simple noun phrases. Both the story-telling and classifier tasks indicated

that no significance was observed on the mean types and proportion use of noun phrases and

structural errors such as double classifier construction. Therefore, the TD and LD groups at

age four and five performed similarly in these areas.

Semantic use of noun classifiers in TD and LD participants

For the semantic use of classifiers in the TD and LD groups, the story-telling task

indicated that the TD group at age four used more types of classifiers than the LD

counterparts. This may be attributable to the difference in the language ability between

groups. Tse et al. (2007) showed that the types of classifiers increased as age increased. Since

the LD group's language ability was more delayed than the TD group, so the LD group used

fewer types of classifiers than the latter. For participants at age five, story-telling task

revealed that the TD group used more 隻 *zek3* than the LD counterparts. In addition, the LD

group showed more inappropriate use of 個 *go3* than the TD group. These two findings were

related to each other. Referring to our data, it was observed that the LD participants preferred

to overgeneralize *go3* to animate objects such as animals (which should be classified by *zek3*)

than their TD peers. With more overgeneralization of *go3*, they used relatively fewer

proportion of *zek3* than the TD group. The story-telling task revealed no significance on the

use of other classifiers. This suggested that the use of other classifiers may not be a good

indicator to differentiate the TD and LD groups.

Classifier task also showed that for the participants at age five, the TD group used shape

classifiers more appropriately than their LD peers. There were similar findings in Stokes and

So (1997). They found that the accuracy of shape classifiers in language-disordered children

were lower than their age-matched peers. No significance was found on the use of function

classifiers. The discrepancy between shape and function classifiers was associated with the

order of acquisition of classifiers. Mak (1991) suggested that children performed better with

classification based on function rather than shapes. As a result, the TD group used shape

classifiers more appropriately than their LD peers while no difference in the function

classifiers. No other significant findings on the error patterns between the TD and LD peers at

age four and five. Thus, they made similar error patterns regardless the language ability.

Conclusion

Concerning the developmental trend of syntactic use of noun classifiers, TD participants

used different types of classifier noun phrases with a wide range of complexity as age

increased. Double classifier construction was found at all ages. Semantically, they used more

variations and types of classifiers as age increased. Error pattern such as overgeneralization

of 個 *go3* was noted, but the occurrence decreased as age increased.

Concerning the difference between the TD and LD groups on the use of classifiers, it was found that there were syntactic and semantic differences on the participants at age five only. Syntactically, LD participants tended to use more [Dem-CL]$_{NP}$ construction. Semantically, they showed (i) less accuracy on the use of shape classifiers, (ii) less mean proportion use of 隻 *zek3* and (iii) more inappropriate use of 個 *go3* than their TD peers.

Clinical implication

From this study, it was observed that syntactic and semantic use of classifiers differed between TD and LD groups at age five only. Clinicians may consider the following aspects when assessing the language performance of children at age five, including the proportion use of [Dem-CL], the proportion use of 隻 *zek3*, the accuracy of shape classifiers and inappropriate use of 個 *go3*.

Limitation and further research

Because of the difficulty to locate the young LD participants, no comparison was made between the TD and LD children at age three. In addition, a larger sample size of the LD groups at age four and five would enhance the validity of the claims made in this study.

According to Szeto (1998), children from 1;05-3;08 already employed classifiers in their speech. In order to trace the early development, a younger age group was desired. For future studies, apart from investigating the production of classifiers, comprehension of classifiers can also be examined, especially for children at or below age three.

References

Allan, K. (1977). Classifiers. *Language, 53*, 285-311.

Chan, S.M. (2006). *The use of classifiers by Hong Kong young children in story-telling context.* Unpublished bachelor dissertation, The University of Hong Kong.

Cheung, J.C.W. (2002). *Classifier use by children with specific language impairment.* Unpublished bachelor dissertation, The University of Hong Kong.

Erbaugh, M. S. & Yang, B. (2006). Two general classifiers in the Shanghai Wu dialect: A comparison with Mandarin and Cantonese. *Cashiers de Linguistique 35*(2), 169-207.

Fey, M. E. (1986). *Language intervention with young children.* Boston: College-Hill Press.

Lyons, J. (1977). *Semantics.* Cambridge: Cambridge University Press.

Mak, D. (1991). *The acquisition of classifiers in Cantonese.* Unpublished Ph. D, University of Reading.

Matthews, S. & Yip, V. (1994). *Cantonese: a comprehensive grammar.* London: Routledge.

Mayer, M. (1969). *Frog, where are you?* New York: Dial Books.

Poon, E. (1980). *Some aspects of the ontological development of nominal classifiers in Cantonese.* Unpublished MA dissertation, The University of Hong Kong.

Reynell, J. & Hurtley, M. (1987). *Reynell Developmental Language Scales (Cantonese version).* Windsor, England: NFER-NELSON.

Stokes, S. & So, L.K.H. (1997). Classifier use of language disordered and age-matched

Cantonese-speaking children. *Asia Pacific Journal of Speech, Language and Hearing, 2*, 83-101.

Szeto, K.K.S. (1998). *The acquisition of Cantonese classifiers.* Unpublished M. Phil. Thesis, The University of Hong Kong.

Tse, S.K., Li, H., & Leung, S.O. (2007). The acquisition of Cantonese classifiers by preschool children in Hong Kong. *Journal of Child Language 34* (3), 495-517.

Wong, C.S.P. (2000). How Cantonese-speaking two-year-olds fend for themselves though the ticket of classifier. In E.V. Clark (ed.), *Proceedings of the Thirtieth Annual Child Language Research Forum,* (149-58). Stanford: Centre of the Study of Language and Information, Stanford University.

Appendix A

Types of Cantonese classifier noun phrases (modified from Szeto, 1998)

Structures	Examples
a. [Dem-Num-CL-(N)]	嗰 一 隻 (狗)
	go2 jat1 zek3 (gau2)
	'this dog'
b. [Dem-CL-(N)]	嗰 隻 (狗)
	go2 zek3 (gau2)
	'this dog'
c. [Num-CL-(N)]	一 隻 (狗)
	jat1 zek3 (gau2)
	'one dog'
d. [Q-CL-(N)]	每 隻 (狗)
	mui5 zek3 (gau2)
	'each dog'
e. [Wh-CL-(N)]	邊 隻 (狗)
	bin1 zek3 (gau2)
	'which dog'

f. [CL-N]   隻　狗

zek3 gau2

'the dog'

g. [CL-CL-(N)]   隻　　隻　(狗)

zek3 zek3 (gau2)

'every dog'
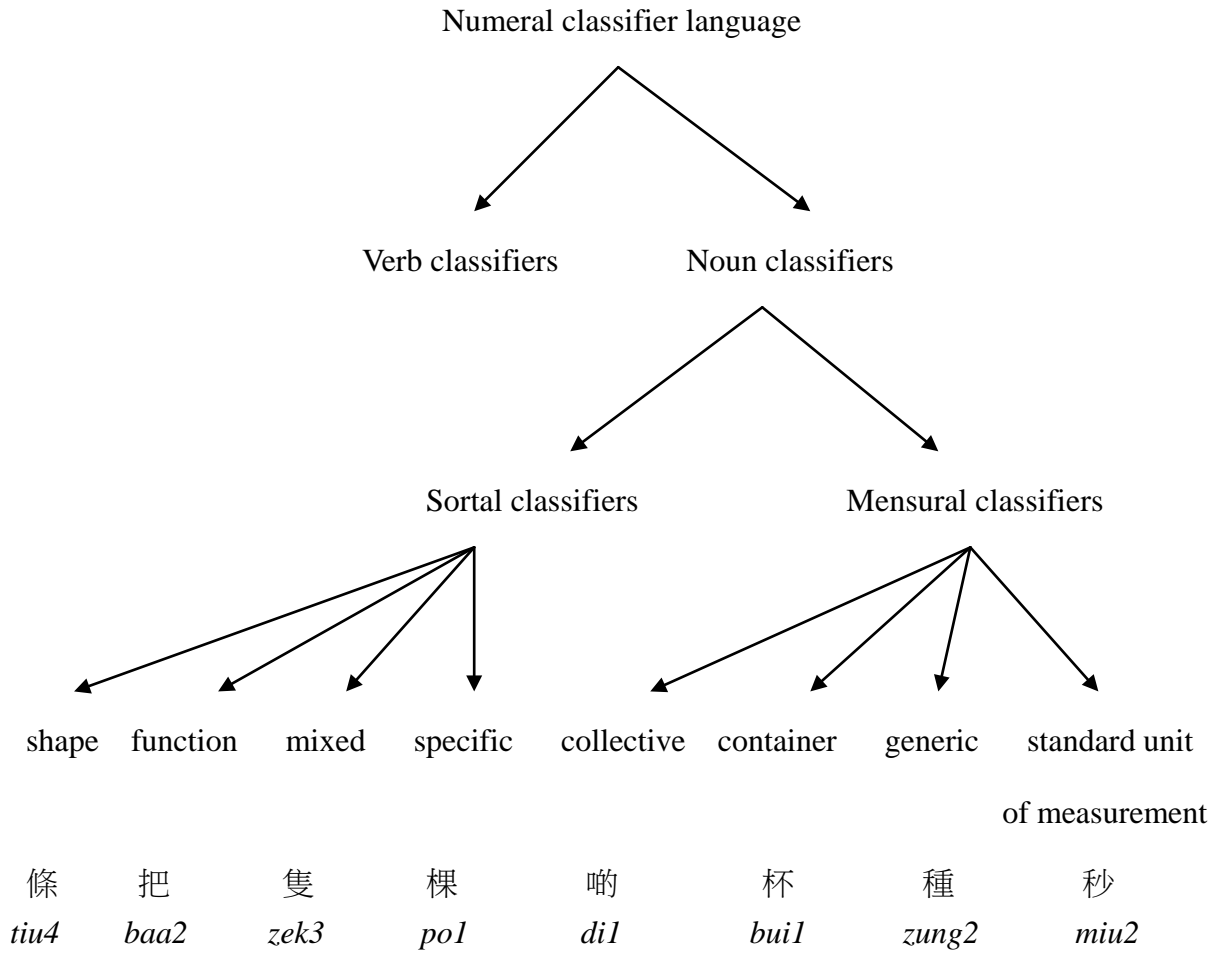
h. [Nx-CL-Ny]   佢　　隻　　狗

keoi5   zek3   gau2

'his dog'

---

*Elements in the brackets can be omitted.

Appendix B

The typology of Cantonese classifiers (Szeto, 1998)

Numeral classifier language

Verb classifiers   Noun classifiers

Sortal classifiers   Mensural classifiers

shape	function	mixed	specific	collective	container	generic	standard unit of measurement
條	把	隻	棵	啲	杯	種	秒
tiu4	*baa2*	*zek3*	*po1*	*di1*	*bui1*	*zung2*	*miu2*

Appendix C

Information of the participants

Age Group	Language Group	No. of males	No. of females	Mean age	Age range
Three	TD	11	9	3;05	3;01-3;11
	LD*	2	1	3;07	3;03-3;11
Four	TD	10	10	4;05	4;01-4;11
	LD	9	5	4;07	4;00-4;11
Five	TD	7	13	5;07	5;00-5;11
	LD	8	4	5;04	5;00-5;10
Adults	--	10	10	21;01	20;01-22;11

* LD group at age three would not be analyzed in the present study

Appendix D

Samples of the classifier task

The participants were asked 呢度有幾多樣乜嘢? They were required to count the number of

the objects and responded in [Num-CL-N]$_{NP}$ structure. The participants were entailed to

answer the following two trials before the task began. The trials aimed at allowing the

participants to understand what structure they should produce in the classifier task. No scores

were given in these trials.

兩＿＿＿＿狗

三＿＿＿＿星

Appendix E

Conditions that classifiers were excluded from the analysis (Szeto, 1998; the table was

modified from Chan, 2006)

Conditions	Examples
1. Self correct	咁隻…個小朋友
	gam2 zek3…go3 siu2 pang4 jau5
	'That child'
2. Repetition of part or whole of the utterance within one picture	個…個蜜蜂竇
	go3…go3 mat6 fung1 dau3
	'the hive'
3. Hesitation	咁就同佢隻…/e6/….隻狗仔去
	gam2 zau6 tong4 keoi5 zek3…e6…zek3 gau2 zai2
	heoi3
	'his dog goes'
4. Unclear nouns that being classified	睇吓有呢個
	tai2 haa5 jau5 li1 go3
	'look at this one'

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