Classifiers and Plural Marking are Not Mutually Exclusive*

Chonghyuck Kim

(National University of Singapore)

Kim, Chonghyuck. (2013). Classifiers and Plural Marking are Not Mutually Exclusive. The Linguistic Association of Korea Journal, 21(1), 29-45. Chierchia (1998) develops an influential semantic theory called Nominal Mapping Parameter, which predicts that a language with a generalized classifier system does not have plural marking. He claims that common nouns in classifier languages do not differentiate singular entities from plural entities in the syntax just like English mass nouns and, as such, they are bound to have obligatory classifier systems and no plural marking. In this article, I argue against Chierchia's view and claim that a generalized classifier system in a language should not be taken to show that the language has a mass lexicon. My argument is based on data drawn from Korean in which a generalized classifer system coexists with fairly productive plural marking.

Key Words: Classifiers, Plurality, Nominal Denotation, Korean, Count/Mass Nouns

1. Introduction

Numerals directly combine with (count) nouns in English.

(1) five lions

However, the Korean counterpart of the English noun lion does not combine

^{*} An earlier version of this paper was presented at the 13th Japanese and Korean Linguistics. Special thanks are due to three anonymous reviewers, Satoshi Tomioka, and Benjamin Bruening for their helpful comments and encouragements.

with a numeral without a classifier.1)

(2) a.* tases saca b. saca tases mari five lion lion five CL_{animal}

One popular way to account for the contrast between English and Korean is to assimilate the Korean facts in (2) to the obligatory use of classifiers with English mass nouns in (3).

(3) a.* five waters b. five bottles of water

Under this view, the Korean counterparts of English count nouns are in fact 'mass nouns' and thus the obligatory use of classifiers follows. Chierchia (1998) proposes an influential theory that captures this view, which I call the *mass view*.

In this paper, I argue against the mass view and show that a generalized classifier system in a language does not mean that the language has a mass lexicon. The argument is mainly based on a crucial prediction that the mass view makes – the complementary distribution of a generalized classifier system and plural marking. The mass view predicts the lack of plural marking in a classifier language for the same reason it is not available with English mass nouns. I will show that this predicted correlation between the two does not hold in Korean: Korean is a classifier language, but it does have a fairly productive plural marker, -tul. If we take -tul in Korean as the evidence that there exists a count/mass distinction in the language, as the mass view does for English -s, it is no longer possible to attribute its obligatory use of classifiers to the lack of the count/mass distinction. Based on the observation from Korean that classifiers are required even in the count domain, I will suggest following Krifka (1989, 1995) that classifiers are universally required when a numeral combines with a noun, and reduce the difference between Korean and English to an overt vs. covert use of classifiers.

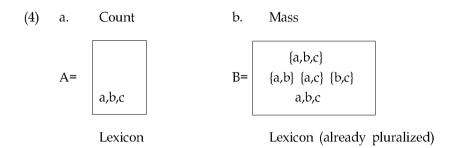
This paper is organized as follows. Section 2 reviews the part of Chierchia's

¹⁾ Abbreviations used: Acc=accusative, CL=classifier, Cop=copula, Dat=dative, Gen=genitive, Loc=locative, Nom=nominative, PL=plural marker, Pst=past, Pres=present, Top=topic.

theory relevant to our discussion. Section 3 presents Korean as a problematic case for the mass view. Section 4 shows that the problematic case can be handled by adopting the hypothesis that classifiers are universal. Section 5 concludes the paper.

2. The Mass View: Chierchia (1998)

In order to understand how pluralization and classifiers are defined to be mutually exclusive in Chierchia's theory, we need to start with his theory of count/mass distinction. For Chierchia, the count/mass distinction is considered to be a difference in what a noun denotes in the lexicon. If it denotes a set of singular entities as in (4a), it is a count noun. If it denotes plural entities as well as singular entities, it is a mass noun, as shown in (4b).2)



Pluralization (PL) builds on the count/mass distinction in (4). It applies in the syntax and derives plural individuals from singular individuals, as defined in (5).

(5) $PL(A) = A^*-A$, where A^* is a set of singular and plural individuals.

To give an example, under the assumption that there are three cows, a, b, c, in the world, the domain of quantifications for *cow* and *cows* are $[cow] = \{a,b,c\}$,

²⁾ In contrast to the traditional view (e.g. Bunt 1985), which maintains that mass nouns do not have atomic parts, Chierchia argues that mass nouns have atomic parts just like count nouns, although the size of their minimal parts may be vague.

The concept of *counting* also relies on the distinction given in (4). According to Chierchia, counting requires a level of individuation. Individuation corresponds to a set of singularities singled out in the syntax. Plural-marked nouns, which are derived from a set of singular individuals in the syntax, presupposes a level of individuation. So, they can combine with numerals without classifiers. By contrast, mass nouns come out of the lexicon already pluralized, with no distinction between singulars and plurals. Due to the lack of singled-out singular entities, they cannot combine directly with numerals. Only with the help of classifiers whose function is assumed to be that of providing a counting level (singularities) in the syntax, can they be counted.

In sum, pluralization and direct counting are both dependent on the presence of singled-out singularities, whereas the use of a classifier is based on the lack of singled-out singularities. As a result, classifiers and pluralization are predicted to be mutually exclusive in a language. (6) summarizes our discussion so far.

- (6) a. pluralization -> no classifiers (and direct counting)b. classifiers (and no direct counting) -> no pluralization
- Crucially, (6) predicts a classifier language not to have plural marking.

3. Korean

In this section, I will first show that Korean is a classifier language that requires classifiers across the board. Then, I will show that Korean has plural marker – *tul*, which is very similar to English –s. By combining the two observations together, I will falsify the mass view.

3.1. Korean is a classifier language

As mentioned in the introduction, numerals generally cannot attach to nouns in Korean.

b. *sey so c. *sey chayk (7)a. *sev mwul three book three water three cow

Despite the intuitive semantic difference between water and cow/book with respect to the existence of natural (atomic) units, they both require classifiers in order to be counted.3)

(8)a. mwul sey pyeng b. so seymari chayk sey c. kwen water three CL_{bottle} cow three CL_{animal} book three CL_{book}

An obvious conclusion we can draw from (7) and (8) is that Korean is a classifier language. There is, however, a complication we need to consider before we reach that conclusion. In the literature on Korean nouns (e.g. Kang 1994), it is been often reported that Korean numerals can combine with nouns with or without classifiers. A typical example is given in (9).

(9)a. haksayng twu myeng b. twu haksayng student two CL_{human} student two

The question is whether we can conclude that Korean is a non-classifier language based on examples like (9). The answer, I argue, is no. First of all, the possibility of direct combination of numerals and nouns is restricted to certain human nouns.⁴⁾ As was shown in (7) and (8), numerals are not allowed to

³⁾ The classifier phrases in (8) have alternative forms. A Numeral+Classifier sequence can precede head nouns with the genitive marker uy in between, e.g. [sey pyeng-uy] navul 'three bottle-Gen water'. Since the form in (8) is generally considered to be more natural and basic (Kang 1994), the genitive marked classifier phrase will not be considered in this paper.

⁴⁾ It is hard to draw a dividing line within human nouns in terms of the possibility of direct combination with numerals. Nouns whose number of members is big such as salam 'human' and haksayng 'student' are the best candidates for direct combination. Words of respected or

combine with non-human nouns directly. Also, the fact that the direct combination is restricted to only certain types within the human nouns suggests that it is some kind of exception (see footnote 4). Second, a non-classifier phrase always has its alternative clasifier phrase, as shown in (9). Third, even when the direct combination is possible, it is only possible with small numbers. The higher the number, the worse the direct combination.

(10) twu haksayng ??yetelp haksayng ??sumwu haksayng two student eight student twenty student

We certainly need to account for why some restricted classes of human nouns can exceptionally combine with small numbers. But, this does not, by any means, jeopardize the conclusion that Korean is a classifier language.

3.2. Korean plural marker -tul

Korean nouns can appear bare without numerals, classifiers, or determiners.

(11) Chelswu-ka haksayng-ul mannassta. Chelwu-Nom student-Acc met 'Chelswu met a student/students.'

The bare noun *haksayng* 'student' can be singular or plural depending on context. Its singular reading, however, disappears when *-tul* is present.⁵)

(12) Chelswu-ka haksayng-tul-ul manassta. Chelswu-Nom student-PL-Acc met 'Chelswu met students.'

specific occupations such as kyoswunim 'professor' and chengsopwu 'janitor' cannot easily combine with numerals.

⁵⁾ Korean - tul can appear on categories other than nouns, such as PPs, VPs, etc. Traditionally, this type of - tul is distinguished from the - tul on an NP. Following the tradition, I assume that the two - tul's are different and do not discuss the non-nominal use of - tul in this paper. See Kim (1994) and Song (1997) for the non-nominal use of - tul.

Korean *-tul* and English *-s* both exclude singular interpretations.

Another similarity between -tul and -s is that they are defined only for count nouns.

b.* mwul-tul (13) a. saca-tul lion-PL water-PL 'lions' '*waters'

It is tempting to conclude on the basis of (12) and (13) that we would be justified in assigning to -tul whatever semantic function we may assign to -s. Considering Chinese and Japanese at this point is helpful in making the decision. Chinese and Japanese have *-men* and *-tachi*, respectively. They also share the properties shown in (12) and (13). But there are still controversies over the status of these morphemes. For instance, Cheng and Sybesma (1999) and Iljic (1994) argue that -men is not a plural marker like we usually find in such languages as English, but a special category, a collective marker. Their major objection against -men as a plural marker is that unlike Engish -s, its interpretation is restricted in various ways. Thus, it is important to show how Korean -tul behaves in those respects in which English -s and Chinese-men/Japanese –tachi do not go together. The following is a comparison of English –s, Korean –tul and japanese –tachi.6)

Property 1: Associative Reading

Japanese -tachi can attach to a proper name. Proper name + tachi refers to a group represented by the individual with the name.

(14)Taro-tachi-wa kae-tta. moo Taro-PL-top already go-home-Pst 'The group of people represented by Taro went home already.'

This reading is available neither with English –s nor with Korean –tul.

⁶⁾ I consider Japanese - tachi in this paper, since Japanese is typologically closer to Korean than Chinese. Nevertheless, -tachi and - men have more or less the same properties.

(15) Wuripan-ey-nun Edison-tul-i manhta. our.class-Loc-Top Edison-PL-Nommany 'There are many Edisons in our class.'

Edison-tul in (15) refers to either people whose names are Edison or people with the properties of Edison, just like English –s.

-Tachi does not induce an associative reading when it combines with common nouns. Even in this case, however, *-tachi* behaves differently from Korean *-tul* and English *-s*, as the following properties show.

Property 2: Weak Existential Readings

An English bare plural can only be interpreted existentially when it is used as an argument of a stage level predicate, as in (16). Its Korean counterpart with *–tul*, however, can either be indefinite or definite, as shown in (17).7)

- (16) John met students yesterday.
- (17) Chelswu-ka ecey haksayng-tul-ul mannassta.
 Chelswu-Nom yesterday student-PL-Acc met
 'Chelswu met (the) students yesterday.'

This difference, however, is not due to a meaning difference between the two plural markers. Rather, it is due to the fact that Korean is an article-less language. If Chierchia's (1998) claim that covert operators are freely used in article-less languages is correct, the definiteness in (17) is achieved by the iota (t) operator. The use of the iota operator is blocked in (16) by *the* in English (see Chierchia 1998 for details). Unlike *-tul* and *-s*, however, Japanese *-tachi* can only be interpreted as definite, as shown in (18).8)

⁷⁾ Carlson (1977) is the first who showed the various interpretational possibilities of English bare plurals.

⁸⁾ I have somewhat simplified the Japanese data here. In fact, there are controversies over whether Japanese – *tachi* plurals can be interpreted as indefinites. For instance, Nakanishi and Tomioka (2004) argue that they can be indefinite, while Kurafuji (2002) argue for the opposite. The point I want to make here is that in contexts where Japanese – *tachi* plurals cannot easily be interpreted as indefinite, Korean – *tul* plurals can.

(18) John-wa gakuee-tachi-ni at-ta.

John-Top student-TACHI-Dat meet-Pst

'John met the students.'

Property 3: Generic/Kind readings

An English bare plural receives a generic interpretation when it appears as the subject of a generic sentence, as in (19a). While Korean bare plurals pattern with English bare plurals, as shown in (19b), the intended generic interpretation is hardly available for Japanese bare plurals with *-tachi*, as in (19c).

- (19) a. Italians are cheerful.
 - b. Italiasalam-tul-un myenglanghata.

Italian-PL-Top cheerful

c. Italiajin-tachi-wa yooki-da. Italian-PL-Topic cheerful

'√Some groups of Italians are cheerful./ ???Italians are cheerful.'

The same pattern is observed with respect to the availability of kind readings.

- (20) a. Dinosaurs are extinct.
 - b. konglyong-tul-un myelcong-toyessta. dinosaur-PL-Top extinct-became
 - c. zyosei-tantei(*-tachi)-wa mesurasii.female-detective(-PL)-Top rare'Female private detectives are rare.'

Property 4: Scopelessness

When a bare plural appears with a scope bearing element such as an intensional verb, it necessarily takes narrow scope.

(21) John wants to meet politicians. (want>politicians, *politicians>want)

The bare plural politicians in (21) cannot take wide scope over the intensional

verb want. Turning to Korean -tul in (22),

(22) Chelswu-nun cengchiin-tul-ul manna-ko sipehanta.⁹⁾ Chelswu-Top politician-PL-Acc meet-Comp want (√want>politicians, √politicians>want)

we find that Korean bare plurals can have either a narrow scope or a wide scope reading. This difference is not problematic, however. The wide scope reading is due to the lack of articles in Korean. When an overt article such as *some* appears with a plural noun in English, the noun phrase is also ambiguous between the wide and narrow scope readings.

(23) John wants to meet some politicians. (ambiguous)

Assuming that there is a covert operator corresponding to English *some* and it is freely available only in an article-less language, we can assimilate (22) to (23) and block the use of the covert operator in (21) by the fact that English has an overt counterpart of the covert operator, *some*. Under this analysis, Korean *-tul* is transparent with respect to scope relations just like English *-s*. Let us now look at Japanese *-tachi*.

(24) sono byooin-wa kangohu-tachi-o sagasi-teiru. that hospital-Top nurse-PL-Acc seek-Progressive *'That hospital is looking for nurses (to hire).'
√'There is a group of nurses that hospital is looking for.'

-Tachi gives rise to an unambiguous wide scope reading and excludes the narrow scope reading. This shows that *-tul* and *-s* are both transparent with respect to scope relations, but *-tachi* is not.

(25) is a summary of our discussion in this subsection.

⁹⁾ Of the two readings, the narrow scope reading is more readily available than the wide scope reading. But the sentence in (22) can also be used to describe Chelswu's wish to meet a few particular politicians, where *politicians* takes wide scope over *want*.

(25)Comparison of the semantics of -s, -tul, and -tachi.

		-S	-tul	-tachi
a.	associative reading	No	No	Yes
b.	weak existential reading	Yes	Yes	No (?)
c.	generic/kind reading	Yes	Yes	No (?)
d.	narrow scope with respect	Yes	Yes	No
	to intentional verbs	(obligatory)	(optional)	

Korean -tul is strikingly similar to English -s, as (25) shows. Unlike Japanese tachi, Korean -tul has all the interpretational possibilities that English -s may have. I conclude from this that it is unreasonable to treat -tul as something different from -s, as people often do with Japanese -tachi and Chinese -men, and that we are justified in analyzing -tul on a par with English -s.

3.3. Korean -tul and count/mass distinction

The coexistence of plural marking and a generalized classifier system in Korean entails that one of the following correlations is invalid.

- (26)a. plural morphology -> count nouns
 - b. generalized classifier system -> mass nouns

Recall that -tul can only attach to count nouns. Besides, as noted by Kang (1994), Korean has some quantifying expressions that are sensitive to a count/mass distinction. For instance, yele/myech-meych 'several' and kak 'each' are only compatible with count nouns.

*kak/*yele (27)kak/yele sakwa mwul each/several apple each/several water

As an opposite case of (27), we have quantity expressions that are only compatible with mass nouns.

(28) yakkan-uy mwul *? yakkan-uy chayksang little-Poss water little-Poss desk 'little water' '*little desk'

Therefore, the second correlation in (26) cannot be correct in Korean. The presence of a generalized classifier system in a language does not entail that the language has only mass nouns. A classifier system can be required even if the language has count nouns.

4. Classifiers as a universal category

The claim that a generalized classifier system can be required even in a count domain brings up a new set of important questions. Among those, I will address the ones that beg an answer most urgently; what is the function of classifiers?; why is it required even if there is a count/mass distinction?; and how do we account for the difference between Korean and English in the use of classifiers? To answer these question, I propose to look at English from a Korean perspective. More specifically, I propose that classifiers are universal across languages.¹⁰)

Under the proposed universal classifier view, the difference between Korean and English is reduced to an overt vs. covert use of classifiers. An apparent direct combination of a numeral and a noun, as in (29a), is in fact mediated by a null classifier, like its Korean counterpart, as in (29b).

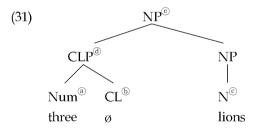
(29) a. three \emptyset lions (\emptyset = null classifier) b. saca-(tul) sey mari lion-(PL) three CL_{animal}

As for the question of why classifiers are universal and obligatory, Krifka (1989, 1995) provides a straightforward answer. In Krifka's theory, numerals are arguments of type <n> (they are not quantifiers) and thus cannot combine with

¹⁰⁾ This claim is not new. Although Krifka does not make an argument for a classifier as a universal category, he explicitly hypothesizes it in his many works.

nouns which are predicates of type <e,t>, because of their type mismatch. Numerals and nouns can only be combined with the help of a classifier, whose function is to provide an open numeral argument position to a predicate, as illustrated in (30).¹¹⁾

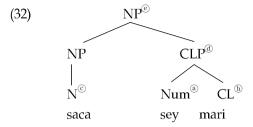
- (30)[CL] = $\lambda n \lambda P \lambda x [P(x) \wedge NU(P)(x) = n]$ where a given P denotes a set of singular and plural entities and x ranges over the elements of the set.
- (30) states that classifiers mediate between numbers and predicates. NU is short for 'natural unit'. Its function is to take a predicate as its argument, and pick out an entity from the domain of quantification denoted by the predicate, and then return a number/numeral corresponding to the number of natural unites making up the entity.
- (31) illustrates how the English phrase in (29a) is derived under the proposed analysis.



- a. [three] = 3
- b. [CL] = $\lambda n \lambda P \lambda x$. [P(x) \wedge NU(P)(x)=n]
- c. [lions] = λy . LION(y)
- d. $[CLP] = \lambda P \lambda x$. $[P(x) \wedge NU(P)(x)=3]$
- $[NP] = \lambda x. [LION(x) \wedge NU(LION)(x)=3]$

The derivation of its corresponding Korean phrase in (29) is given below.

¹¹⁾ The order of λn and λP can be reversed depending on which element a given classifier combines with first in the syntax.



- a. [sey] = 3
- b. $[CL] = \lambda n \lambda P \lambda x$. $[P(x) \wedge NU(P)(x) = n]$
- c. $[saca] = \lambda y$. LION(y)
- d. $[CLP] = \lambda P \lambda x. [P(x) \wedge NU(P)(x)=3]$
- e. $[NP] = \lambda x$. $[LION(x) \wedge NU(LION)(x)=3]$

Note that without CL, Num and NP cannot combine in (32) because of their type mismatch. Their direct combination is blocked since neither of the two categories takes the other as its argument.

In addition to providing answers to the questions raised at the beginning of this section, the universal classifier view has other desirable consequences. First, it predicts that pluralizing a head noun won't make the combination of [Numeral+Noun] any better, since pluralization does not induce a type shifting operation in any of the theories of plurality that I know of. This prediction is borne out.

Second, we can provide a simple account for why [Noun+Classifer] without a numeral is ungrammatical.

¹²⁾ As a reviewer notes, it is somewhat odd to add - *tul* to an inanimate noun that occurs in a classifier phrase, as in ??sakwa-tul twu-kay 'apple-PL two-CL_{general}'. It is unclear to me why Korean - *tul* behaves differently from English - s in this regard. It is important to note, however, that the mere fact that Korean - *tul* may not be identical to English - s in every respect does not mean that they have different pluralizing functions. Rather, it is more reasonable to take it to mean that Korean - *tul* has an additional constraint that needs to be satisfied, though it has the same pluralizing function as English - s.

(34)*saca(-tul) mari lion(-PL) CLanimal

The noun phrase in (34) is interpreted as $\lambda n \lambda x$. [LION(x) \wedge NU(LION)(x)=n]. Without a numeral to bind the open number argument in the phrase, it cannot receive a proper interpretation, leading to the ungrammaticality of the phrase.

To sum up, all the problematic Korean cases for the mass view fall out naturally from the hypothesis of the universal classifier view that a number is a category of type <n> which cannot combine with a predicate of type <e,t> without a mediating classifier. Under the proposed analysis, both English and Korean count nouns require classifiers. The difference between the two languages is reduced to whether a classifier is visible or not.

A reviewer notes that there is an apparent difference between Korean -tul and English -s that suggests, contra my claim, that the two plural markers may not be identical. The reviewer's examples are given in (35) where -s diverges from *-tul* in terms of compatibility with a classifier.

(35)five bottles of water a. *mwul tases can-tul water five CL_{cup}-PL

One might take (35) to conclude that there exists a difference between - tul and -s, as the reviewer suggests. This conclusion, however, is not warranted. Under the analysis proposed here, English does not have an overt classifier, for it only has a covert one. Thus, what appears to be a classifier in (35a), bottles, is in fact not a genuine classifier but a measure word which combines with a covert classifier, as shown in (36).

(36) five \emptyset bottles of water (\emptyset = null classifier)

Since *bottle* is not a classifier, nothing prevents it from combining with -s. In other words, the difference between (35a) and (35b) does not stem from the fact that the two plural markers are different but from the fact that the English measure word bottle is different from the Korean can 'CL_{cup}'. The fact that bottle is a lexical word with measure function whereas *can* 'CL_{cup}' is a genuine classifier is supported by a difference in their ability to combine modifiers like *big*, as in (37).

- (37) a. five big bottles of water
 - b. *mwul tases khun can water five big CL_{cup}-PL

5. Conclusion

In this paper, I have presented Korean as a counterexample to Chierchia's Nominal Mapping Parameter. Contradicting Chierchia's prediction, Korean has both a generalized classifier system and plural marker —tul, which has all the semantic characteristics of English plural marker —s. The fact that a language has a generalized classifier system, therefore, should not be taken to mean that the language has a mass lexicon. Rather, it seems more plausible to hypothesize, following Krifka (1989, 1995), that every language distinguishes count and mass nouns and that their difference lies in the overt vs. covert use of classifiers.

References

- Bunt, H. (1985). *Mass terms and model-theoretic semantics*. Cambridge: Cambridge University Press.
- Carlson, G. N. (1977). *Reference to kinds in English*. Unpublished doctoral dissertation. University of Massachusetts. Amherst, MA.
- Cheng, L. L., and Sybesma, R. (1999). Bare and not-so-bare nouns and the structure of NP. *Linguistic Inquiry*, 30(4), 509-542.
- Chierchia, G. (1998). Reference to kinds across languages. *Natural Language Semantics*, 6(4), 339-405.
- Iljic, R. (1994). Quantification in Mandarin Chinese: Two markers of plurality. Linguistics, 32, 91-116.
- Kang, B. (1994). Plurality and other semantic aspect of common nouns in

- Korean. Journal of East Asian Linguistics, 3(1), 1-25.
- Kim, Y. (1994). A non-spurious account of 'spurious' Korean plurals. In Y. Kim-Renaud (Ed.), Theoretical issues in Korean linguistics (pp. 303-323). Stanford, CA: CLSI Publication.
- Krifka, M. (1989). Nominal reference, temporal constitution and quantification in event semantics. In R. Bartsch, J. van Benthem, & P. van Emde Boas (Eds.), Semantics and contextual expressions (pp. 75-115). Dordrecht: Foris.
- Krifka, M. (1995). Common nouns in Chinese and English. In G. Carlson & F. J. Pelletier (Eds.), The generic book (pp. 398-411). Chicago: University of Chicago Press.
- Kurafuji. T. (2002). Plural morphemes, definiteness and the notion of semantic parameter. Unpublished manuscript.
- Nakanishi, K., and Satoshi, T. (2004). Japanese plurals are exceptional. Journal of East Asian Linguistics, 13, 113-104.
- Song, J. (1997). The so-called plural copy in Korean as a marker of distribution and focus. Journal of Pragmatics, 27, 203-224.

Chonghyuck Kim

Department of English Language and Literature Faculty of Arts and Social Sciences Block AS5 7 Arts Link, Singapore 117570

Phone: 65-5616-6936 Email: ellkc@nus.edu.sg

Received on December 31, 2012 Revised version received on February 27, 2013 Accepted on March 8, 2013