

# The Effect of Attitude toward Reading and Exposure to Reading on English Competence\*

Haeyoung Kim  
(Catholic University of Korea)

**Kim, Haeyoung. (2003). The effect of attitude toward reading and exposure to reading on English competence. *Language Research* 39(2), 441-471.**

The study examines the effect of attitude toward reading toward English language competence. In the analysis the roles of mediational factors such as exposure to reading in English (L2) and exposure to reading in Korean (L1) are also examined. Results show that attitude has an indirect positive effect on English language competence through reading in Korean and English. Such outcome indicates that in order to ensure that a positive attitude contribute to actual foreign language competence, reading not only in the language of interest but also reading in one's mother tongue must take place.

**Key words:** Attitude toward reading, L1 reading, L2 reading, L2 ability, Magazine Recognition Test, Structural Equation Modeling

## 1. Introduction

### 1.1. Attitude Toward Reading and Exposure to Print

Alexander and Filler (1976) define reading attitudes as a system of feelings related to reading which causes the learner to approach or avoid a reading situation (p.1). Understanding the role of attitude in readers is important in that attitude may affect the level of ability ultimately attained by a given student through its influence on such factors as engagement and practice. Also, a fluent reader with a poor attitude may choose not to read when other options exist, a condition known as aliteracy (McKenna, Kear, & Ellsworth, 1995). Therefore, fostering a positive attitude toward reading among students is important since it is

---

\* The author wishes to acknowledge the financial support of the Catholic University Settlement Research Fund granted in the program year of 2002.

essential for bringing up students as avid readers long after they have left school, which is one of the principal goals of teaching reading.

### 1.1.1. First Language Context

The advantages of extensive and intensive reading have received great support for years, with a bulk of studies indicating a positive relationship between attitude toward reading and the amount of print one is exposed to.

Healy (1963) reports a study in which several instructional practices were used to teach reading to elementary students. According to the study, the plan that best fosters positive attitude change allowed students to choose reading groups according to their reading interests, and allowed them to choose from a wide variety of reading materials compared to the alternative plan where children were assigned to groups that required completion of basic texts. The study indicates that the most effective way to improve attitude towards reading among students is to expose them to reading material that best suits their interests.

Durkin (1961) examined over 5,000 beginning readers who had received no prior formal reading instruction. Among the students 49 children were so-called natural readers, reading at some measurable level as they entered school. Intelligence, socio-economic status, and racial background did not seem to be determining factors. Instead, all the children shared the common experiences of being read to regularly at home from age two forward and of talking with their parents about words and reading. They entered school with strong, positive attitudes about books and about their abilities to read, which virtually insured further success in becoming fully literate.

In a review that examines the rationale, implementation, and research conducted on Sustained Silent Reading (SSR), Moore, Jones, and Miller (1980) found a positive effect of SSR on student attitude toward reading. They conclude that SSR helps to achieve a major goal of schooling experience in that it aids developing positive attitudes and habits conducive to a lifetime of reading for enjoyment and learning.

In an in-depth study of dyslexics who became enthusiastic readers, Fink (1995, 1996) interviewed 12 dyslexics, including a Nobel laureate, a member of the U.S. National Academy of Sciences, and other professionals in fields that require extensive reading. The study reveals that all developed basic fluency three to four years later than their peers, but still

acquired necessary skills through avid reading about a topic of passionate interest.

### 1.1.2. Second Language Context

The positive relationship between attitude toward reading and the amount of reading in one's second language has also been confirmed by recent research. In a study that examined the effects of the Fiafia Program based on the Shared Book Experience Approach (Holdaway, 1979) in Niue, a small South Pacific island, Elley (1991) compared reading achievement of children participating in the program and that of children in the conventional audiolingual program. He observed a considerably more positive attitude toward reading on the part of the children participating in the Fiafia program as well as superior improvement in language achievement. When immersed in meaningful text, without tight controls over syntax and vocabulary, children appeared to learn the language incidentally, and to develop positive attitudes toward books. The study also looked at the effects of the Reading and English Acquisition Program (REAP) in Singapore which integrates whole-language approach aiming to improve levels of literacy in English, a second language for most students. Here, students in the REAP program displayed marked improvement in their attitude toward books as they raised their literacy level in English. Providing a pleasant, nonthreatening environment was associated with gains in attitude toward reading and books, which in itself is an important objective in most language programs.

Schon, Hopkins, and Davis (1982) investigated Spanish and English reading abilities, reading attitudes and academic self-concepts of two comparable groups of elementary bilingual Hispanic students with the experimental group incorporating book flood with free reading in Spanish and the control group exposed to the conventional instruction which emphasized reading in English only. The researchers found that the book flood groups improved significantly more in attitudes toward reading.

Mason and Krashen (1997) found a positive effect of extensive reading on foreign language acquirers at the university level in Japan. In one of the experiments where reluctant students in an English language course were exposed to extensive reading for a semester, one of the most important and impressive finding of the study, according to the research, was the clear improvement in attitude shown by the experimental students. Many of the once reluctant students of English as a Foreign

Language (EFL) became eager readers after being introduced to a wide range of reading materials.

## 1.2. Attitude Toward Reading and Language Competence

Information available on the relationship between positive attitude and reading achievement is scanty in light of its considerable importance. Only a limited number of studies have focused specifically on this issue. Furthermore, studies that are available on the relationship between attitude toward reading and reading ability have produced mixed results.

In a study showing that attitudes may affect achievement, Groff (1962) hypothesized a positive relationship between fifth and sixth grade children expressed attitudes toward four different content types of material - boys sport stories, girls mild adventure stories, airplane or flying stories, and manners or social relations stories - and their scores on tests of critical reading on the four types of material. A correlation between scores from a numerical ranking given to the four types of material and the critical reading scores was examined. The results corroborated the hypothesis with significant correlations ranging from .23 to .50.

The effects of attitude change may produce achievement gains and more reading over a period of time. A longitudinal study of the effects on achievement of changing attitudes toward reading was conducted by Healy (1965) as a follow up of an earlier study (1963). Healy found that attitudes of fifth graders toward reading could be changed in an experimental setting where children were allowed to choose reading groups according to interest and select reading materials from a wide variety. In assessing the same subjects at the junior high school level, achievement was measured by the California Achievement Tests, and attitudes toward reading were measured by the number of books read. A significant difference was found between those students who had been in the experimental setting in the fifth grade (and whose attitudes had been changed) and paired control students who had not been in the fifth grade experimental situation. The researcher concluded that changing the attitude of children toward reading at the fifth grade level appears to increase achievement and encourage more reading (p.271).

McKenna et al. (1995) investigated the reading attitudes of children in grade one through six which were analyzed on the basis of gender, grade level, ethnicity, reading ability, and the use of basal readers. According to

the model proposed by McKenna et al., a reader's history of success or frustration plays a central role in shaping attitude. Among the results obtained through the study, high-ability students occasionally appeared to have more positive attitudes toward reading instruction than did less able students. However, the differences were slight.

Not all studies, however, show significant relationship between achievement and attitudes. Greenberg, Grever, Chall, and Davidson (1965) examined the relationship between attitude toward reading and reading achievement levels of fourth grade African-American children from severely depressed urban area (p.57). This relationship was part of the study which examined other factors deemed important for schooling in general and their association with achievement level and gender. Among the factors were Best Friend, Myself, Smart Child, Mother, Father, Teacher, School, TV, Reading, Homework, Playing, Arithmetic, and Dumb Child. A semantic differential instrument was developed so that the students could rate them on evaluative and potency scale. Reading ranked fifth on the evaluative scale but was next to the lowest on potency. Achievement level did not play a significant role in students reading attitude. Also, contrary to other research dealing with a similar topic, male students with low reading achievement scores showed the most favorable attitude toward reading. Researchers speculate that the inconsistent findings may be due to the nature of the setting of the study where a homogeneous lower-class group was examined, a possible social desirability effect on the part of the students to provide socially acceptable responses or the use of inappropriate instrument to measure students attitudes.

A report on the Right to Read program in Mamaroneck public schools (Bernstein, 1972) also found no relationship between reading ability and attitude toward reading. The author provides several possible explanations for the lack of relationship including the use of invalid attitude measurement instrument, over-enthusiastic initial response to attitude inventory (pretest), normal decline in interest toward reading among students, inappropriate timing of the attitude survey (posttest) which was conducted immediately after the reading comprehension test, lack of teachers efforts to simulate reading interest due to heavy emphasis on reading achievement.

Cline and Kretke (1980) compared attitude toward reading and achievement scores of a group of students in their ninth grade where the

experimental group had recently completed their third year of Sustained Silent Reading (SSR) program. Twelve questions included in a survey of 113 items asked the students about their reading habits such as how the students felt about going to the school library, reading the newspapers, reading a book that they chose for themselves, reading true stories, and doing assigned reading. They were also asked how well they liked to read, if they were reading a book now just for fun, and if reading was either useful or important to them. Four attitude items out of 12 showed a statistically significant difference between the students in the SSR treatment school and the students in the two control schools. However, there was no statistically significant difference between the experimental and the control groups in terms of achievement scores. The data were also analyzed by identifying students by school, by gender, and by ability (high, medium, low on the basis of achievement scores) to see if some students responded more to SSR because of these factors. There was no difference on achievement measures.

### 1.3. Exposure to Reading and Language Competence in English

There is substantial evidence that reading, especially free voluntary reading, makes a major contribution to the development of literacy not only in one's first language but also in one's second language (Elley, 1991; Elley & Mangubhai, 1983; Krashen, 1993). A number of studies have confirmed that free voluntary reading, or pleasure reading, is an important source of literacy development.

Incidental learning of words through reading also seems to take place when we are learning a second language. Dupuy and Krashen (1993) provided subjects with a text to read that contained words unfamiliar to them. Subjects were not told to try to learn the new words, but were simply asked to read for meaning. After reading the text, subjects were surprised with a test on the new words. The study showed that readers make small but significant gains in vocabulary knowledge from even one exposure to a new word, gains that, given enough reading, appear to be large enough to account for adult vocabulary size (Nagy, Herman, & Anderson, 1985).

Elley and Mangubhai (1983), in a two-year study conducted at a number of Fijian primary schools, examined the effects of an extensive reading program on the language skill development of an experimental

population of nearly 400. Reading materials used in the program consisted of simplified reading materials in English. One of the major research hypothesis was that repeated exposure to high-interest illustrated story books in the target language will produce rapid second language (L2) learning. Results at the end of the first year of the study showed that subjects receiving extensive reading had made a substantial improvement in receptive skills (reading and word recognition). Test results after eight months showed that pupils exposed to many stories progressed in reading and listening comprehension at twice the normal rate, and confirmed the hypothesis that high-interest story reading has played an important role in second language learning. By the end of the second year of the study this improvement had increased further and extended to all aspects of the subjects' L2 abilities, including both oral and written production.

Among rural Fijian students who were learning English as a second language, Elley (1991) found that those children who were exposed to an extensive range of high-interest illustrated story books, and encouraged to read and share them, were consistently found to learn the target language more quickly. This study provides strong support for incidental language learning in a second language where children were exposed to large amounts of high-interest story books, from which they acquired the language incidentally and at their own pace. Thus it appears that children acquire syntactic forms and new vocabulary in the context of processing meaningful print, in a situation in which they are genuinely interested, rather than by regular analytic study and practice with the language. The superiority of the reading groups on this criterion lends support to the view that such structures are better learned incidentally in the context of interesting reading and discussion.

A study that further supports the hypothesis that voluntary exposure to reading, or pleasure reading leads to improved syntactic language ability was conducted by Lee, Krashen and Gibbons (1995). Forty-nine adult acquirers of English as a second language took two tests probing restrictive relative clause competence. The amount of reported pleasure reading done by subjects was the only significant predictor of both measures. Neither years of formal study nor length of residence in the United States were significant predictors. The result is consistent with the hypothesis that acquired knowledge is available for use on form-based as well as communicative measures (Krashen, 1981).

Gradman and Hanania (1991) interviewed 101 international students enrolled in an English language program in order to examine factors that influence students' performance on the Test of English as a Foreign Language (TOEFL) scores. Of the 44 variables that were probed, extracurricular reading had the highest correlation with TOEFL scores. In addition, a model proposed by the researchers revealed that most of the variables that were not correlated with TOEFL nevertheless correlated with extracurricular reading, which in turn correlated well with TOEFL, suggesting direct and indirect relationships among these variables. The model seemed to indicate that the single most important factor in improving proficiency as reflected in the TOEFL scores is outside reading. Reading for personal information or pleasure appeared to be a more important means of implicit learning than exposure to and use of spoken English in and out of the classroom. It is likely that extensive outside reading helped to improve the level of proficiency in a global sense, enhancing acquisition of grammar, vocabulary, and rhetorical structure, as well as increasing the general knowledge base which helps in reading comprehension. The authors went on further and compared the effect of extracurricular reading on TOEFL scores between students with and without intensive English program. They concluded that an intensive English program did not seem to help nonreaders, while the readers seemed to do quite well whether or not they have taken intensive English. This observation certainly confirms previous findings that outside reading is a very important factor in promoting language learning, and it strongly suggests that English as a Second Language (ESL) as well as English as a Foreign Language (EFL) programs would do well to encourage this language activity.

Constantino (1995), in a case study of four international students in the United States, also reported that increased pleasure reading had a very positive effect on TOEFL performance among the three who did extensive pleasure reading, while her subject who did only formal study did not do well on the exam.

Hafiz and Tudor (1989) studied the effects of extensive reading by Pakistani ESL students in the United Kingdom. The program was designed to investigate whether extensive reading for pleasure resulted in an improvement in subjects linguistic skills, with particular reference to reading and writing. In this study, the researchers made available over 100 graded English readers to a group of 16 Pakistani-born students who

spoke Punjabi at home, but were taught in English at school. During a 12-week period they read silently from their chosen books in daily one-hour sessions. A comparison with two comparable control groups, who did little reading, showed impressive and significant gains on tests of reading comprehension, vocabulary, and writing. In contrast, the gains from pretest to posttest were significant in only 2 of the 14 students for the control groups. The author noted large gains in writing, supporting a transfer effect from enhanced reception to expression. The results indicate that the extensive reading program undertaken resulted in a substantial improvement in subjects' linguistic proficiency, and thus provide evidence to the hypothesis that an input-based and acquisition-oriented mode of learning can lead to improvement in learners' linguistic skills in a second language.

In a series of experimental studies Mason and Krashen (1997) concluded that extensive reading proved superior to traditional approaches on measures of reading comprehension, as well as on measures of writing and reading speed, and according to teacher observations, was much more popular with students. The experimental group of the first study consisted of university students who had failed in their English course the previous semester. This group spent the semester reading graded readers, averaging about 30 books per student. Students in the control group were second year students in the general education curriculum. These students continued with traditional instruction. A 100-item cloze test was given as a pretest and a posttest to both groups. The gains made by the experimental group were significantly greater than the gains made by the control group and posttest scores show that the experimental group nearly caught up with the control group. The second study added a writing component to the first study with different subjects. Students wrote a summary of the first book they read in English, and repeated this procedure with a different book at the end of the semester. Three judges rated the papers in three categories - good, average, not good - which were later scaled as good and average/not good. Judges were unaware of which summaries were written at the beginning and at the end of the semester. Results indicate significant improvement in writing ability by all three judges, which confirm that improvement in writing is possible without conscious learning.

#### 1.4. The Present Study

The primary purpose of the study is to identify factors that contribute to language competence in English specifically focusing on the effect of attitude toward reading has on language competence and the effect of reading experiences in both Korean and in English have on one's English language competence. The effect of attitude toward reading on the reading experiences in both languages will also be looked into.

The second purpose is to test the Input Hypothesis (Krashen, 1985) that emphasizes "comprehensive input" as a major contributor to language acquisition.

The third purpose includes the cross-relationship between the two languages, that is, the relationship between reading experiences in Korean and English reading experience is also of interest. A popular hypothesis is that reading ability in one's primary language transfers to the second language, that is, those who are better readers in their first language will find it easier to learn to read another language, assuming some oral ability in that language. The Interdependence Hypothesis brought forward by Cummins (1981) predicts transfer from the first language to the second language, and vice versa, given positive conditions of exposure and motivation. This study will test this hypothesis by examining the effect of reading in Korean on reading in English.

### 3. Methodology

#### 3.1. Research Design

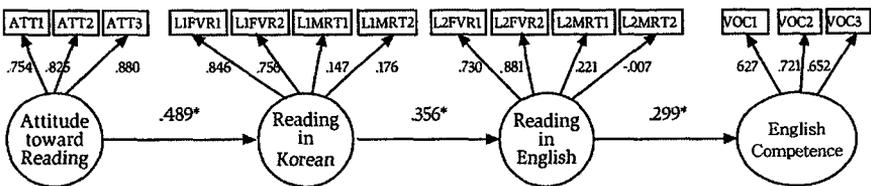
Causal modelling is a procedure that permits researchers to determine whether a hypothesized model, where some variables are assumed to be caused by others, can account for the relationships among the variables (Schumaker & Lomax, 1996). There are two parts to the causal model, the measurement model and the structural model. The measurement model estimates the relationships between the indicator variables (the measures taken) and the hypothesized latent variables (e.g., factors), and permits tests of the significance of these estimates. The structural model is concerned with the relationships among latent variables, expressed in terms of correlations or regression coefficients ( $\beta$ ). As with the measurement model, these coefficients( $\beta$ ) are estimated and these estimates can be

tested for significance. Finally, causal modelling permits tests of the adequacy of the model (i.e., the goodness of fit) and indicates whether other relationships could improve this fit.

Causal modelling is ideally suited to the present situation, where it is possible to hypothesize causal links between the constructs underlying the variables under investigation. This study examines the relationships between attitude toward reading, exposure to reading in Korean, exposure to reading in English, and English language competence with Korean college undergraduates in Korea. The indicator variables defining these latent variables, as well as the relationships among the latent variables, are presented in the causal model in Figure 1.

The scales for these constructs were either adapted directly from previous studies or modified to better suit the Korean setting, taking cultural differences into consideration. Since the study was conducted in Korea, a back-translation method (Brislin, 1970, 1980) was used to translate the scales for attitude toward reading and for self-reported free reading survey from English to the Korean language, the official language and the language of instruction in Korea. The study included an examination of scale reliabilities and a confirmatory factor analysis of the hypothesized measurement model, which consisted of four latent variables and sixteen measured variables. Finally, structural equation modeling was used to test the hypothesized model.

Figure 1. Structural Model of the Study



### 3.2. Research Questions

The purpose of the study was to examine the effect of attitude toward reading on exposure to reading in English and English competence, and that of exposure to reading in English on English competence.

Figure 1 depicts the hypothesized model that indicates the relationship between attitude toward reading, exposure to reading in Korean, exposure

to reading in English, and English language competence. The following questions were formulated:

1. How does attitude toward reading affect exposure to reading in Korean?
2. How does attitude toward reading affect exposure to reading in English?
3. How does attitude toward reading affect English language competence?
4. How does exposure to reading in Korean affect exposure to reading in English?
5. How does exposure to reading in Korean affect English language competence?
6. How does exposure to reading in English affect English language competence?

### 3.3. Participants

Participants initially consisted of 530 undergraduates who were enrolled in an undergraduate level English course offered at the Pusan National University of Education. Due to data attrition, however, responses from 420 subjects were used in the final analysis.

### 3.4. Instruments

#### 3.4.1. Instrument for Attitude toward Reading.

A scale developed by Estes (1971) was used to measure attitude toward reading. Of the 20 items in the original scale, 18 items are used in this study (See Appendix A). The item "Sharing books in class is a waste of time" which was considered inappropriate for college undergraduates was omitted. Another item, "Reading is dull", was also taken out due to redundancy. Items such as "Books are a bore" and "Reading becomes boring after about an hour" were already included in the survey. Instead of the five-point Likert scale used by Estes (1971), students responded to the items along a four-point response scale: 1= Strongly Disagree, 2 = Disagree, 3 = Agree, 4 = Strongly Agree. The total score is a quantitative reflection of the attitude toward reading (Estes, 1971).

#### 3.4.2. Instruments for Exposure to Reading in Korean.

Of the 8 items in the self-reported free reading in Korean survey (see Appendix B), 5 items are from Lee and Krashen's (1996) study. Three

additional items, “Do you enjoy reading bestsellers or popular novels?”, “How much do you spend per month on books other than school related books?”, and “I enjoy reading books as a leisure activity” are included for further examination of students’ level of exposure to reading in Korean. Students respond to the items along a four-point response scale. A summation of the values of each student’s responses on the scale yields a quantitative representation of his or her exposure to reading.

Another scale for measuring exposure to reading in Korean is the Korean magazine recognition test (MRT) (see Appendix C). The MRT is a checklist-with-foils that uses magazines currently in circulation in Korea. The function of the MRT is not to prove whether the students have actually read the magazines they have recognized. As Stanovich and his colleagues (Cunningham & Stanovich, 1990; Stanovich & West, 1989) points out, purpose of recognition tests including the MRT is to use them as indicators of reading experience rather than measures of reading volume. The list includes publications from a variety of fields including current issues, sports, music, fashion and entertainment, all written in Korean. Of the 40 items in the test, 28 were authentic Korean magazines and 12 were foils.<sup>1)</sup>

### 3.4.3. Instruments for Exposure to Reading in English.

Six items are used to measure students’ self-reported free reading in English. The items measured the amount of free reading done outside the classroom, frequency of visiting bookstores, number of English books at home, etc. (see Appendix D). An identical scale was used in a study by Kim and Krashen (1998) with Korean high school students. The reliability of the scale in this study was reported as .78. As in the self-reported free reading in Korean, students responded to the items along a four-point response scale: 1= Strongly Disagree, 2 = Disagree, 3 = Agree, 4 = Strongly Agree, or along an intensity scale: 1 = Rarely, 2 = Only Occasionally, 3 = Frequently, 4 = All the Time. The total score is the sum of the values of each items.

An English magazine recognition test (MRT) (see Appendix E) is used to provide additional information on the level of exposure to reading in English. The English MRT is also a checklist-with-foils that contains titles

---

1) Scoring key shall be furnished upon request.

of English magazines and newspapers that are currently in circulation mixed with titles that are not real magazines or newspapers. Of the 40 items in the test, 26 were authentic English magazines or newspapers and 14 were foils.<sup>2)</sup>

#### 3.4.4. Instruments for Language Competence.

The English vocabulary test, another checklist-with-foils, uses English vocabulary as items. The test consists of fifty items with 21 foils included (see Appendix F). All vocabulary items, including foils, were taken from Meara and Buxton (1987). A previous study by Kim and Krashen (1998) reported a reliability of .87.

Scores for the Korean Magazine Recognition Test, English Magazine Recognition Test, and the English vocabulary test were corrected for guessing. In order to prevent from falsely rewarding students who guess randomly, a formula that rewards discretion was used (Ebel, 1972).<sup>3)</sup>

### 3.5. Procedure

The questionnaires were administered to the students during normal class periods. All the questionnaires took approximately 15 to 20 minutes to complete.

## 4. Results

### 4.1. Descriptive Statistics

Descriptive statistics results were computed for the five scales and vocabulary tests in Korean and in English using SPSS for Windows v7.5 (1997). Table 1 summarizes the overall scale means and their standard deviations (SD), the item means, and the alpha estimates of reliability for each scale and the vocabulary tests.

---

2) Scoring key shall be furnished upon request.

3) The formula is as follows:

$$S = R + O/N$$

where S is the score corrected for guessing on the basis of items omitted, R, the number of items answered correctly, O, the number of items omitted, and N, the number of alternative answers, in this case, 2.

Table 1. Summary Statistics and Coefficient Alpha Reliabilities for Each Scale

Scale	# of Items	Total Pts	Scale Mean	SD	Item Mean	alpha
Attitude toward Reading	18	72	60.36	6.60	3.35	.84
Reading Experience in Korean Self-reported Free Reading Magazine Recognition Test	8	32	19.52	4.28	2.44	.76
	40	40	22.74	1.44	.32	.79
Reading Experience in English Self-reported Free Reading Magazine Recognition Test	6	24	9.13	2.64	1.52	.73
	40	40	22.28	1.40	.17	.79
English Language Competence	50	50	31.54	2.26	.35	.82

#### 4.2. Reliability and Item Analysis

To examine the homogeneity of the five scales and the vocabulary tests, the internal consistency estimates of reliability for each factor were computed using Cronbach's Alpha. Analyses of the "corrected item-total correlation" indicated satisfactory variance explained among the questions for each scale. Although lower corrected item-total correlations were observed for the Magazine Recognition Tests for Korean and English, they were acceptable for a fairly new scale. The Cronbach's alpha values for attitude toward reading, self-reported free reading in Korean, Korean magazine recognition test, self-reported free reading in English, English magazine recognition test, English vocabulary test were .84, .76, .79, .73, .79, and .82 respectively. This analysis yielded acceptable results ranging from Cronbach's alpha .73 to .84.

#### 4.3. Test of the Measurement Model

Prior to constructing the structural model, confirmatory factor analyses (CFA) were run to examine the adequacy of the hypothesized factor loadings (i.e., the measurement model), the degree of fit, and latent factor intercorrelations. Confirmatory factor analysis is viewed as a subset of the more general structural equation modeling approach (Pedhazur & Schmelkin, 1991), which enables a researcher to test the hypotheses that a particular linkage between the observed variables and their underlying latent factors actually exists in a statistically reliable manner (Byrne, 1994). If the measurement models are adequate, the structural models are tested based on the measurement model.

In order to test the unidimensionality of the measurement model, each scale was divided into either split-halves or split thirds in order to render each factor at least three indicators. The splitting procedure yielded 14 indicator variables. The 14 indicator variables were submitted to a confirmatory factor analysis (CFA). In this study, the measurement model was comprised of 3 latent variables (or factors), 9 indicators, and associated error terms. Models were identified by setting factor variances to unity.

The following criteria were established to examine model fit: (1) the three fit indices from the EQS application, i.e., the Normed Fix Index (NFI), Non-normed Fit Index (NNFI), and the Comparative Fit Index (CFI), are greater than .90; (2) the chi-square/degrees-of-freedom ratio is less than 3.0 (Carmines & McIver, 1981); and (3) the Root Mean Square Error of Approximation (RMSEA) is less than .50 (Brown & Cudeck, 1993; Rigdon, 1996).

Based on the criteria set forth above, the measurement model fit quite well for the sample (chi-square = 182.60,  $p < .001$ , NFI = .887, NNFI = .906, CFI = .927 and chi-square/df = 2.57). However, the Root Mean Square Error of Approximation (RMSEA) was .061, with a 90% confidence interval of  $.050 \leq r \leq .072$ , unable to meet the criterion set above. All hypothesized factor loadings with the exception of one measured variable (L2MRT2) were substantial and significant in the expected directions (see Table 2).

The interfactor correlations (see Table 3), i.e., correlations that had been corrected for measurement error, were smaller than .90, indicating that the four scales and the vocabulary tests measured factorially distinct but related components. The highest interfactor correlation observed was between Attitude toward Reading and English Language Competence (.499). Findings from the confirmatory factor analysis confirmed that the measured variables were reliable indicators of the latent factors and thus the model was adequate to serve as a measurement model for the subsequent structural analysis.

#### 4.4. Test of the Structural Model

Structural equation modeling is a technique that allows for the estimation of contributions of various variables simultaneously. It also allows for direct and indirect estimation of latent variables (i.e., constructs underlying the sets of variables identified earlier) without the distorting presence of measurement error (Bentler & Wu, 1995; Bryne, 1994). In this study, the

researcher first identified the measurement model (the latent factors via confirmatory factor analysis) consistent with the literature, with the constraint that no indicators were allowed to be associated with more than one latent variable. Similar heuristics used earlier in the confirmatory factor analysis were followed to test the model fit.

The structural model is shown in Figure 1. Based on the heuristics delineated earlier, the hypothesized model fit quite well for the sample (chi-square = 186.847,  $p < .001$ , NFI = .885, NNFI = .909, CFI = .926 and chi-square/df = 2.52). However, the Root Mean Square Error of Approximation (RMSEA) was .06, with a 90% confidence interval of  $.050 \leq r \leq .071$ , unable to meet the criterion set above.

The individual paths of the hypothesized model (see Figure 1) were discussed next in relation to the hypothesized model.

Hypothesis 1: A positive attitude toward reading will have a positive effect on the exposure to reading in Korean. As expected, result indicated a positive and significant ( $\beta = .489$ ,  $t = 8.180$ ,  $p < .05$ ) relationship between attitude toward reading and exposure to reading in Korean. This hypothesis was supported.

Hypothesis 2: Exposure to reading in Korean will have a positive effect on exposure to reading in English. As expected, result indicated a positive and significant ( $\beta = .356$ ,  $t = 5.174$ ,  $p < .05$ ) relationship between exposure to reading in Korean and exposure to reading in English. This hypothesis was supported.

Hypothesis 3: Exposure to reading in English will have a positive effect on English language competence. As expected, result indicated a positive and significant ( $\beta = .299$ ,  $t = 4.422$ ,  $p < .05$ ) relationship between exposure to reading in English and English language competence. This hypothesis was supported.

Table 2. Subscales to Target Factor Loadings

Attitude toward Reading	
ATT1 (Items: 1+4+7+10+13+16)	.754
ATT2 (Items: 2+5+8+11+14+17)	.825
ATT3 (Items: 3+6+9+12+15+18)	.880
Exposure to Reading in Korean	
L1FVR1 (Items: 1+3+5+7)	.846
L1FVR2 (Items: 2+4+6+8)	.756
L1MRT1 (Items: sum of odd items)	.147
L1MRT2 (Items: sum of even items)	.176
Exposure to Reading in English	
L2FVR1 (Items: 1+3+5+7)	.730
L2FVR2 (Items: 2+4+6+8)	.881
L2MRT1 (Items: sum of odd items)	.221
L2MRT2 (Items: sum of even items)	-.007
English Language Competence	
Voc1 (Items: 1+4+7+10+13+16+19+22+25+28+31+34+37+40+43+46+49)	.627
Voc2 (Items: 2+5+8+11+14+17+20+23+26+29+32+35+38+41+44+47+50)	.721
Voc3 (Items: 3+6+9+12+15+18+21+24+27+30+33+36+39+42+45+48)	.652

Table 3. Interfactor Correlations

Factors	1	2	3	4
(1) Attitude toward Reading	1.000			
(2) Exposure to Reading in Korean	.499*	1.000		
(3) Exposure to Reading in English	.093	.368*	1.000	
(4) English Language Competence	-.021	.117	.300*	1.000

Note: \* statistically significant.

Hypothesis 4: A positive attitude toward reading will have an indirect effect on the exposure to reading in English through exposure to reading in Korean. Result indicated a positive and significant indirect relationship between attitude toward reading and exposure to reading in English ability. This indirect relationship was established through a positive and significant direct effect from attitude toward reading to exposure to reading in Korean ( $\beta = .489$ ,  $t = 8.180$ ,  $p < .05$ ) and a positive and significant direct effect from exposure to reading in Korean to exposure to reading in English ( $\beta = .356$ ,  $t = 5.174$ ,  $p < .05$ ). Thus, this hypothesis was supported.

Hypothesis 5: A positive attitude toward reading will have a positive indirect effect on better English language competence through exposure to reading in Korean and exposure to reading in English. Result indicated

a positive and significant indirect relationship between attitude toward reading and English language competence. This indirect relationship was established through a positive and significant direct effect from attitude toward reading to exposure to reading in Korean ( $\beta = .489$ ,  $t = 8.180$ ,  $p < .05$ ) and a positive and significant direct effect from exposure to reading in Korean to exposure to reading in English ( $\beta = .356$ ,  $t = 5.174$ ,  $p < .05$ ), and a positive and significant direct effect from exposure to reading in English to English language competence ( $\beta = .299$ ,  $t = 4.422$ ,  $p < .05$ ). Thus, this hypothesis was supported.

Hypothesis 6: Exposure to reading in Korean will have a positive indirect effect on English language competence through exposure to reading in English. Through a significant direct effect from exposure to reading in Korean to exposure to reading in English ( $\beta = .356$ ,  $t = 5.174$ ,  $p < .05$ ) and a significant direct effect from exposure to reading in English to English language competence ( $\beta = .299$ ,  $t = 4.422$ ,  $p < .05$ ) this indirect effect was supported by the present study.

## 5. Discussion and Conclusions

The study examined the causal relationship between attitude toward reading, exposure to reading and language competence in the first and second language context among Korean college students. Another purpose of the study was to examine the role of exposure to reading in the first language in identifying the relationship between attitude toward reading and language competence in the second language and its relationship with exposure to reading in the second language. These relationships, in general, were consistent with the Input Hypothesis (Krashen, 1982, 1985) and the Interdependence Hypothesis (Cummins, 1981).

In the study, the findings indicated satisfactory reliability and construct validity of all measures. Both the measurement models and the structural models yielded acceptable fit indices. Most hypotheses were supported. The significant findings of the present study are summarized as follows:

1. Attitude toward reading was significantly related to exposure to reading in Korean. Students who had positive attitude toward reading read more in Korean.
2. Exposure to reading in Korean was significantly related to exposure

- to reading in English. Students who read more in Korean also engaged in more reading in English.
3. Attitude toward reading and exposure to reading in English had a significant indirect relationship. Attitude toward reading had an indirect effect on reading in English through exposure to reading in Korean. Students who had a positive attitude toward reading read more in Korean which lead to more reading in English.
  4. Exposure to reading in English was significantly related to English language competence. Students who read more in English showed better English language competence.
  5. Exposure to reading in Korean had an indirect effect on English language competence through exposure to reading in English. This indirect effect implies that students who read more in Korean showed better English competence as their reading in Korean had a direct positive effect on reading in English which had a direct effect on English language competence.
  6. Attitude toward reading and English language competence had a significant relationship. This relationship was confirmed as an indirect effect of attitude toward reading on English language competence through exposure to reading in Korean and exposure to reading in English. Students who had a positive attitude toward reading read more in Korean, read more in English, and as a result showed better English language competence. However, the study failed to show an indirect relationship between attitude toward reading and English language competence through exposure to reading in Korean due to the not significant direct effect from exposure to reading in Korean to English language competence.

The study corroborated many of the predictions from Krashen's (1982, 1985) theories. It also shed some light on how attitude toward reading affects reading habits and subsequently, language competence in the second language.

One important finding that emerged from this study can be explained through the mediational role played by exposure to reading in the first language, in this case, Korean. First, the effect of attitude toward reading on exposure to reading in English was mediated by exposure to reading in Korean. Students who read more in English were those who showed a positive attitude toward reading and those who read more in Korean.

Second, exposure to reading in Korean was one of the mediating factors in the effect of attitude toward reading on English language competence. Students who were found to be more proficient in English were those who had a more positive attitude toward reading, read more in Korean and in English.

Also, this study indicated that a positive attitude alone is not sufficient to improve language competence, both in first and second language. Instead of a direct effect from attitude toward reading to Korean and English language abilities, attitude toward reading showed a significant effect on these factors only indirectly through exposure to reading in Korean and in English.

Findings of this study have significant implications for research and practice. This study was based upon the Input Hypothesis which counts comprehensible input mainly through reading as major contributors of effective language acquisition. The method of measuring exposure to reading in Korean and in English was based on reading surveys and on magazine recognition tests developed by the researcher. The low factor loading of the magazine recognition tests on exposure to reading compared to that of reading surveys suggests a need for further development of items. Also, instead of the calculation method used in this study which involves subtraction to obtain the number of omitted items, an alternative method of giving the subjects partial credit for items they are unsure of is also found to be an effective method for scoring (Krashen & Kim, 1998). This alternative presents a more convenient means of computing scores of the test. Future studies should employ such methods.

Notwithstanding the results from the present study which lends additional support for the Interdependence Hypothesis, the effect of reading in the first language on second language development appears to be dependent upon the ties students feel with the language of their heritage culture. According to Schon, Hopkins, and Vojir (1984), recently arrived Mexican-born immigrants displayed a more favorable attitude toward reading in Spanish compared to U.S.-born Mexican students. Therefore, further research on environmental factors, such as the level of support for reading in the first language and students' attitude toward reading, should be conducted.

Finally, the present study once again confirms the potency of the power of reading. Research has consistently found that reading is more

effective and pleasurable than repetitions and drills in foreign language education. Also, the importance of enjoying reading in one's mother tongue before engaging in any other language has been confirmed by this study, suggesting that the Interdependence Hypothesis is useful not only in bilingual education but also in foreign language education. Foreign language educators should be reminded that language can and should be learned with pleasure and that reading is obviously the most effective method of instruction.

### References

- Alexander, J. E. and R. C. Filler. (1976). *Attitudes and Reading*. Newark, International Reading Association.
- Bentler, P. M. and E. J. C. Wu. (1995). *EQS for Windows user's guide*. Encino, CA: Multivariate Software.
- Bernstein, M. R. (1972). Right to Read evaluation: Mamaroneck public schools, ERIC. ED 069 735.
- Brislin, R. W. (1970). Back-translation for cross-cultural research. *Journal of Cross-cultural Psychology*, 1(3), 185-216.
- Brislin, R. W. (1980). Translation and content analysis of oral and written materials. In H. C. Triandis and J. W. Berry, eds., *Handbook of Cross-cultural Psychology Volume 2: Methodology*, Boston: Allyn and Bacon.
- Byrne, B. M. (1994). *Structural Equation Modeling with EQS and EQS/Windows*. Thousand Oaks, CA: Sage.
- Cline, R. K. and G. L. Kretke. (1980). An evaluation of long-term sustained silent reading in junior high school. *Journal of Reading* 23, 503-506.
- Constantino, R. (1995). The effects of pleasure reading. *Mosaic*, 3(1), 15-17.
- Cummins, J. (1981). The role of primary language development in promoting educational success for language minority students. In *California State Department of Education, Schooling and language minority students: A theoretical framework* (pp. 3-49). Los Angeles: Evaluation, Dissemination and Assessment Center, California State University.
- Cunningham, A. E. and K. E. Stanovich. (1990). Assessing print exposure and orthographic processing skill in children: A quick measure of

- reading experience. *Journal of Educational Psychology* 82(4), 733-740.
- Dupuy, B., and S. D. Krashen. (1993). Incidental vocabulary acquisition in French as a foreign language. *Applied Language Learning* 4, 55-63.
- Durkin, D. (1961). Children who read before grade one. *The Reading Teacher* 14, 163-166.
- Ebel, R. (1972). *Essentials of Educational Measurement*. Prentice-Hall, Englewood Cliffs, NJ.
- Elley, W. B. (1991). Acquiring literacy in a second language: The effect of book-based programs. *Language Learning* 41(3), 375-411.
- Elley, W. B., and Mangubhai, F. (1983). The impact of reading on second language learning. *Reading Research Quarterly* 19, 53-67.
- Estes, T. H. (1971). A scale to measure attitudes toward reading. *Journal of Reading* 15, 135-138.
- Fink, R. (1995, 1996). Successful dyslexics: A constructivist study of passionate interest reading. *Journal of Adolescent and Adult Literacy* 39, 268-280.
- Gradman, H., and E. Hanania. (1991). Language learning background factors and ESL proficiency. *Modern Language Journal* 75, 39-51.
- Greenberg, J. W., Gerver, J. M., Chall, J., and H. H. Davidson. (1965). Achievement of children from a deprived environment toward achievement related concepts. *Journal of Educational Research* 59, 57-62.
- Groff, P. J. (1962). Children's attitude toward reading and their critical-type materials. *Journal of Educational Research* 55, 313-314.
- Hafiz, F. M., and I. Tudor. (1989). Extensive reading and the development of language skills. *English Language Teaching Journal* 43(1), 4-11.
- Healy, A. K. (1963). Changing children's attitudes toward reading. *Elementary English* 40, 255-257, 279.
- Healy, A. K. (1965). Effects of changing children's attitudes toward reading. *Elementary English* 42, 269-272.
- Holdaway, D. (1979). *Foundations of literacy*. Sydney, New South Wales: Ashton Scholastic.
- Kim, H. and S. Krashen. (1998). The author recognition and magazine recognition tests, and free voluntary reading as predictors of vocabulary development in English as a second language for Korean high school students. *System* 26, 515-523.
- Krashen, S. D. (1981). Letter to the editor. *Language Learning* 31, 217-221.

- Krashen, S. D. (1982). *Principles and Practice in Second Language Acquisition*. New York, NY: Pergamon Press.
- Krashen, S. D. (1985). *The Input Hypothesis: Issues and Implications*. Torrance, CA: Laredo.
- Krashen, S. D. (1993). *The Power of Reading*. Englewood, CO: Libraries Unlimited.
- Lee, S. and S. Krashen. (1996). Free voluntary reading and writing competence in Taiwanese high school students. *Perceptual and Motor Skills* 83, 687-690.
- Lee, Y. O., S. D. Krashen, and B. Gribbons. (1995). The effect of reading on the acquisition of English relative clauses. *I.T.L.* 113, 263-273.
- Mason, B., and S. Krashen. (1997). Extensive reading in English as a foreign language. *System* 25(1), 91-102.
- McKenna, M. C., D. J. Kear, and R. A. Ellsworth. (1995). Childrens attitudes toward reading: A national survey. *Reading Research Quarterly* 30(4), 934-956.
- Meara, P. and B. Buxton. (1987). An alternative to multiple choice vocabulary tests. *Language Testing* 4, 142-151.
- Moore, J. C., C. J. Jones, and D. C. Miller. (1980). What we know after a decade of sustained silent reading. *Reading Teacher* 33, 445-450.
- Nagy, W. E., P. A. Herman, and R. C. Anderson. (1985). Learning words from context. *Reading Research Quarterly* 20(2), 233-253.
- Pedhazur, E. and L. P. Schmelkin. (1991). *Measurement, Design, and Analysis: An Integrated Approach*. Hillsdale, NJ: Erlbaum.
- Schon, I., K. D. Hopkins, and W. A. Davis. (1982). The effects of books in Spanish and free reading time on Hispanic students reading abilities and attitudes. *National Association of Bilingual Education Journal* 7, 13-20.
- Schon, I., K. Hopkins, and C. Vojir. (1984). The effects of Spanish reading emphasis on the English and Spanish reading abilities of Hispanic high school students. *The Bilingual Review/La Revista Bilingue* 11, 33-39.
- Schumaker, R. E. and R. G. Lomax. (1996). *A beginner's guide to structural equation modeling*. Mahwah, NJ: Lawrence Erlbaum.
- Stanovich, K. E. and R. F. West. (1989). Exposure to print and orthographic processing. *Reading Research Quarterly* 24(4), 402-414.
- SPSS Inc. (1997). *SPSS for Windows V. 7.5*. [Computer Software]. Chicago: SPSS Inc.

## Appendix A

### 독서에 대한 태도 설문조사

다음은 독서에 관하여 여러분이 평소에 갖고 있던 생각을 묻는 문항들입니다. 가장 적절하다고 생각하는 번호에 '0'표를 하십시오. 여기서 말하는 독서란 학업과 관련된 독서가 아닌 여가 시간에 책을 읽는 것을 의미하며 책이란 학업과 관련된 각종 교재 및 참고서가 아닌 도서를 의미합니다.

문항	아니다	대체로 그렇지 않다	대체로 그런 편이다	그렇다
1. 독서는 배움을 위한 것이지 즐거움을 얻기 위한 것이 아니다.	1	2	3	4
2. 도서 구입에 지출하는 것은 좋은 일이다.	1	2	3	4
3. 독서를 함으로써 얻는 것은 별로 없다고 생각한다.	1	2	3	4
4. 독서는 지루하다.	1	2	3	4
5. 여가 시간에 독서를 하는 것은 바람직하다.	1	2	3	4
6. 독서를 한다고 생각하면 흥분되고 기분이 좋다.	1	2	3	4
7. 독서는 학점을 잘 받기 위해서 필요하다.	1	2	3	4
8. 책 중에 끝까지 읽을 만한 책이 별로 없는 것 같다.	1	2	3	4
9. 독서를 한다는 것은 보람된 일이다.	1	2	3	4
10. 책을 한 시간쯤 읽다보면 지루해진다.	1	2	3	4
11. 책 중에는 길이가 너무 길거나 내용이 지루한 것이 많다.	1	2	3	4
12. 독서로 얻는 지식은 별로 없는 것 같다.	1	2	3	4
13. 학교에서 독서하는 시간이 늘어나야 한다고 생각한다.	1	2	3	4
14. 평소에 읽고 싶은 책이 많다.	1	2	3	4
15. 전공 서적 외의 독서는 별로 필요하지 않다고 본다.	1	2	3	4
16. 독서를 안 한다 하더라도 별로 아쉬울 것이 없다고 생각한다.	1	2	3	4
17. 방학동안 독서를 할 수 있는 시간을 마련해야 한다고 생각한다.	1	2	3	4
18. 책을 선물로 받는 것도 괜찮다고 본다.	1	2	3	4

학년: \_\_\_\_\_ 학과: \_\_\_\_\_

성별: 남 / 여

## Appendix B

### Self-reported Free Reading in Korean Survey

1.	학교 과제로 전공서적 혹은 관련 서적을 읽는 것 외에 취미로 독서를 즐기는 편입니까?	아니다 1	대체로 그렇지 않다 2	대체로 그런편이다 3	그렇다 4
2.	인기 소설 혹은 베스트셀러 서적을 즐겨 읽습니까?	아니다 1	대체로 그렇지 않다 2	대체로 그런편이다 3	그렇다 4
3.	한 달에 교재 외의 도서 구입비로 얼마 정도 지출합니까?	0-5,000원 1	5,000원-10,000원 2	10,000원-15,000원 3	15,000원 이상 4
4.	나는 여가 시간에 독서를 즐기는 편이다.	아니다 1	대체로 그렇지 않다 2	대체로 그런편이다 3	그렇다 4
5.	나는 학교 교재 외의 책을 구입하기 위해 서점에	거의 안간다 1	어쩌다 한번씩 간다 2	가끔씩 가는 편이다 3	자주간다 4
6.	나는 잡지를	거의 읽지 않는다 1	어쩌다 한번씩 읽는다 2	일주일에 한번 정도 읽는다 3	자주 읽는다 4
7.	나는 신문을	거의 읽지 않는다 1	어쩌다 한번씩 읽는다 2	일주일에 한번 정도 읽는다 3	자주 읽는다 4
8.	전공 서적 외에 일년에 책을 몇권 정도 읽습니까?	0-5권 1	6-10권 2	11-20권 3	20권 이상 4

## Appendix C

### Korean Magazine Recognition Test

Put 'X' next to titles that are known as magazines. One thing you should be aware of is that not all the titles listed below are real magazines. Keep in mind to check only those you recognize as magazines.

고시계		꿈나라	
비디오쇼		테니스월드	
기독교사상		뮤직앨범	
우먼라이프		엄마랑아기랑	
포토제닉		새벗	
PC 월드		뮤직라이프	
소비자		월간리쿠르트	
쇼핑매거진		말과글	
소년		십대들의 쪽지	
우리말		스크린월드	
사상계		직장인	
새가정		우리얼	
영상가이드		과학동아	
인터넷월드		바둑세계	
신동아		책	
원		예비신부	
공간		인테리어	
월간조선		일터	
신앙계		르네상스	
샘터		어깨동무	

## Appendix D

### Self-reported Free Reading in English Survey

1. How often do you read English novels just for fun?  
a) rarely b) only occasionally c) frequently d) all the time
2. How often do you read English magazines just for fun?  
a) rarely b) only occasionally c) frequently d) all the time
3. How often do you purchase English books at bookstores?  
a) rarely b) only occasionally c) frequently d) all the time
4. I enjoy reading English books.  
a) strongly disagree b) disagree c) agree d) strongly agree
5. My family reads English magazines/newspapers.  
a) rarely b) only occasionally c) frequently d) all the time
6. How many English books other than school-related material do you have in your home?  
a) 0 - 5    b) 6 - 15    c) 16 - 30    d) more than 30

## Appendix E

### English Magazine Recognition Test

Put 'X' next to titles that are known as English magazines. One thing you should be aware of is that not all the titles listed below are real magazines. Keep in mind to check those you recognize as magazines.

Smithsonian		U.S. News and World Report	
Seventeen		Vanity Fair	
Esquire		Adventure	
Forbes		Science	
Exercise		World Travel	
New Yorker		Christian Science Monitor	
The Economist		Los Angeles Times	
Vision		PC International	
Cosmopolitan		Wall Street Journal	
Rolling Stone		Entertainment Review	
GQ		Byte	
Money Market		Time	
Fortune		Fashion Island	
Discover		Medicine Journal	
MTV		Life	
Town & Country		Music Media	
Milestone		Washington Post	
Foreign Affairs		Invention	
National Geographic		Sports Illustrated	
People		Hollywood Weekly	

## Appendix F

### English Vocabulary Test

Put 'X' next to words you recognize as English words. Keep in mind that not all the words listed below are real words.

weary		untamed	
dismissal		loyalment	
successment		possess	
flane		amusity	
handle		invaluable	
conversal		bluck	
combine		heal	
magnify		forcement	
risent		strangity	
instrucness		influence	
rejected		deformness	
strap		artificial	
inscarce		sloping	
miggle		mudge	
collar		bundle	
infect		proposal	
forgivity		crope	
arousion		forsake	
lodge		inject	
expume		flapping	
infectory		burdle	
recipe		whistle	
asainful		turmoil	
forecast		article	
conscious		repeat	

Haeyoung Kim

Catholic University of Korea, Songsim Campus

43-1 Yeokgok 2-dong, Wonmi-gu, Buchon City

Kyonggi-do 420-743, Korea

E-mail: haeyoungkim@catholic.ac.kr

Received: March 1, 2003

Revised version received: May 10, 2003

Accepted: May 16, 2003