

## **The Role of Bilingualism and Personal Variables in Reading Literacy Performance of Bilingual Students Based on the PIRLS Study (2001)**

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### **Abstract**

Today, bilingualism and multilingualism are a global phenomenon and almost rarely, a country can be found in which at least population of its small part does not speak two or more languages. Bilingualism or multilingualism is one of the crucial problems of educational system that has created numerous challenges in formal education especially in the early years. The main purpose of the training curriculum is noticing reinforcing and training skills of listening, reading, speaking and writing. Among the language skills, reading skill is one of the most important learning needs of students in their today life and perhaps the most important skill among school skills. Progress International Reading Literacy Study (PIRLS) is an initiative program for assessing reading ability of children in fourth grade which has been measured reading process every five years. The aim of the present study is to investigate the role of bilingualism and individual variables on bilingual students' reading literacy performance based on the PIRLS study (2001). Structural equation model is used for research data analysis. Results from this model indicated that the direct impact of two hybrid languages at home and school variable has significant effect on reading literacy performance statistically. Also, direct effect of other personal variables on reading literacy performance of students was also significant.

**Keywords:** Bilingualism, Reading literacy performance, Progress International Reading Literacy Study (PIRLS).

### **Introduction**

Skill in "reading" is one of the most important learning needs of students in today's life. Ability of comprehension, interpretation and inference of textbooks and other educational materials, will make students familiar with new information and ideas and help them to learn better thinking and living. In fact, learning reading skills is the key of all learning because most of curriculum learning is takes place through these (Karimi, 1380). Progress in International Reading Literacy Study (PIRLS) that run and administered by the International Institute of Academic Educational (IEA) is one of these evaluation studies. In this test, International Institute of Academic Educational (IEA) evaluate students' reading skills and collected data from students, teachers and schools about factors that may lead to better performance of some students than others are gathered and compared (Vigel, Calton and rheostat, 2001). Reading literacy as an essential skill is the purpose of this

evaluation. Campbell (2001) defines reading literacy as: ((ability to understand and use written form of language that community asks for or individual make the valuation)) (quoting Karimi, 1384, p 25). Reading skills is the cornerstone of education (Chary and Good, 2002).

Bilingualism is one of the important issues in the field of education and today, wide topics are addressed in this area (Adib and Mahmoudi, 2009). It seems that in Iran's educational curriculum Persian lesson is affected by bilingualism than the other lessons because of the close relationship with the issue of language. In this regard, one of the variables that affect the reading literacy development is duality of language at home and school (Farahani, 2006; Ghasemi, 2008; Karimi, Kabiri, 2009, Zandi et al, 2009, Rajabi, 2006). Bilingualism is a condition in which a person trained by a language other than their native language (Francis, 1999).

One of the other important factors that influence reading performance is the attitudes toward reading and students' involvement in the reading process. (Sara. and Rona, 2009; Mullis et al, 2007; Twist, Gnadi, 2004; Coles and Hall, 2002; Hall and Coles, 1999; Kush and Watkins, 1996; McKenna, Kear and Ellsworth, 1995). Attitude toward reading is defined as feelings and excitement that facilitate or inhibit the probability of involvement in reading activities. Also, attitude toward reading is defined as a range of feelings related to reading which cause to avoid or tendency to reading position (Smith, 1990). Both of these definitions depend on the attitude position referring to the positive attitude toward reading that increase the probability of involvement in reading activity. Papanastasiou, C (2006) conducted a research on the 3001 fourth-grade students participated in PIRLS 2001 study to found out the factors that distinguished the high-level and low-level students in reading. Student attitude toward reading is considered as a significant factor. This factor, after homework, out of school reading activities, time spent on homework at home, is introduced as a fourth factor. And some researches (Namdari, 2008) using data from PIRLS also reported no relationship between attitude to reading and reading performance.

Another variable affecting students' reading achievement is self-concept that has always been of interest to psychologists and paying attention to oneself and how to suppose it, is a subject that has an important place in individual education. Researches undertaken in this area have shown that there is a positive relationship between the positive self-concept of students to reading and reading performance, (Morgan and Fuchs, 2007, Baker and Scher, 2002, Barker and Wigfield, 1999). Self concept is individual's comprehensive insight about oneself that is shaped and changed by individual's own personal experience and others' interpretation of that experience (Glover and Browning, translated Kharrazi, 2006). According to data from PIRLS 2001 a study was done by Tse, S.K et al (2005). In this study, three countries, Hong Kong, Singapore and the United Kingdom were compared. Results showed that the presence of a positive self-concept has positive and significant relationship with reading literacy performance. The researchers said that self-concept is a basic concept in understanding of human behavior. Ryder and Susan (2006) in his study as reading Literacy development and reading self concept of third grade primary children which was done on 80 students in Sydney city were found the significant and positive relationship between self-concept and attitude in reading. Finally, based on theoretical principles and research findings, it appears that there is a relationship between the exogenous variable (duality of language at school and home) and endogenous variables (attitude toward reading, self-concept and reading literacy performance). Therefore, in order to examine the relationships and direct and indirect effects of these variables on reading literacy performance a scientific model is used to better understanding of their relationships with reading literacy performance.

### Methodology

**Data collection:** In this study, two instruments were used to collect data: A) the PIRLS reading literacy tests is made in order to evaluate the goals and reading processes through a collection of literary and informational reading. B) Background analysis questionnaires to assess the impact of condition and characteristics of environment of home and school on children's reading literacy development.

**The population and sample:** The population of this study consists of Iranian students in fourth grade at school in years of 2000-2001. From this population about 7430 students are participated in PIRLS test through a three-stage cluster sampling method of class and among these amounts 975 non Persian students were selected by compensatory scores cloning method.

**Data analysis:** In order to analyze data and test the research hypothesis, structural equation modeling method and LISREL software were used.

### Results

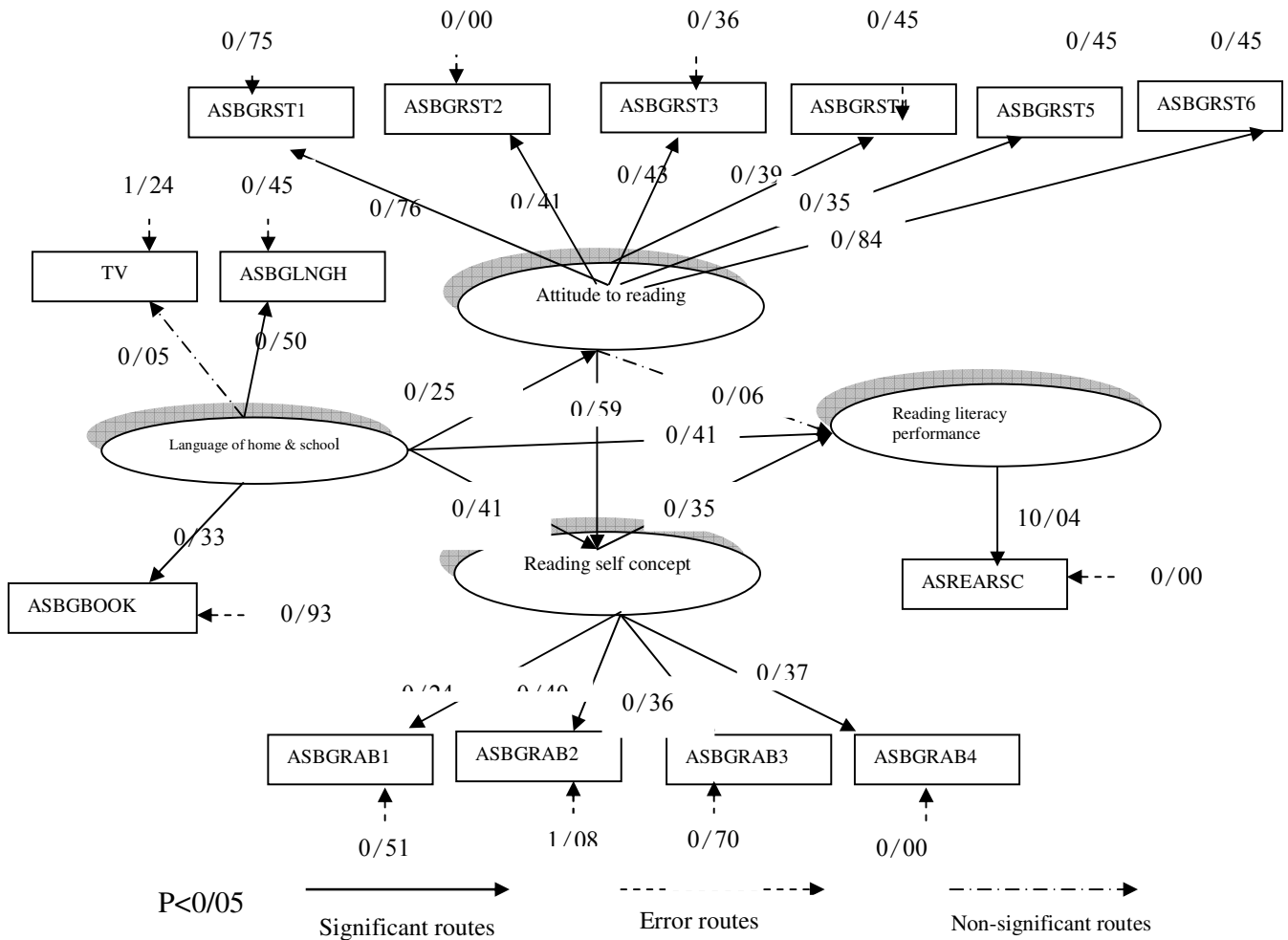
Generally, the base of analysis in the LISREL program is based on the covariance matrix or correlation between variables. Table 1-1 shows the covariance matrix of the latent variables of study. Based on the table 1 variable of home and school language has the highest common distribution with reading literacy performance than the other variables.

**Table 1. The coefficients of covariance matrix between latent variables (exogenous and endogenous) case study.**

variables	1	2	3	4
1) Duality of language at home & school	1			
2) Attitude to reading	0/07	1		
3) Reading self concept	0/10	0/33	0/18	
4) Reading literacy performance	0/28	0/12	1	1

Fit model is done by using fit features and by maximum probability method. Results of fit method show that goodness of fit index is (90/0), adjusted goodness of fit index (88/0), and the root mean error of square approximation is (08/0) which represents a goodness of fit model with data. It is necessary to explain that the chi-square statistic was not used due to the sensitivity of the sample size. The estimated parameters include the coefficients of the direct, indirect effects and total coefficients. Diagram 1-1 shows the estimated coefficients for the path of direct effects pattern. According to the diagram 1-1 among available routs in the model, only one route namely a direct effect of attitudes toward reading on reading literacy performance does not receive the necessary support, but the rest of that namely a direct effect of the rate of language duality at home and school and reading self concept on reading performance, with the probability of 95% is positive and significant. Also the direct effect of attitude toward reading variable on reading self-concept was confirmed, in addition, the results of Figure 1-1 shows that the amount of television media using does not play a part in explaining the variance of language at home and school variable. Other features of results of the structural equation model analysis refer to estimate the indirect effects and effects of total variable on each other and among indirect effects, only an indirect effect of language

of home and school variable on reading performance is significant. This means that the language of the home and school variables by influencing attitudes toward reading variable and reading self concept on reading literacy performance variable has an indirect effect. In addition, the overall effect of all routes specified in the model was verified.



**Figure 1. The proposed model for research variables with obtained coefficients.**

**Discussion**

Reading is one of the most important learning needs of students in today's life. Reading is one factor that is directly linked to human progress and in addition to increasing the life skills, will also lead the development of knowledge (Harrison, 2004). The present results show that variable of the home and school language has greatest impact on reading literacy. This finding is in line with the investigation results of (Farahani, 1385; Ghasemi, 1387; Karimi, great, 1388, Zandi et al, 1388; Rajabi, 1389). This research finding shows that reading literacy performance would increase if the

rate of dialect of the school language (Persian) in the house or the number of books (Persian) at home were more. Among the other results of this study can be point out to the significant and positive relationship between students' reading self-concept and their reading performance which is in line with the research findings of (Morgan and Fuchs, 2007, Barker and Wigfield, 1999). So when students are satisfied with their reading process and have a positive self-concept of their reading, this process leads to motivational aspects such as interest and diligence in that matter and this can lead to improvement of reading performance (Namdari, 1387). In addition to these results, the fit model showed that the relationship between attitude toward reading with reading literacy is non-significant and this finding is contrary to researches such as: Cools and Hall, 2002, Kush and Watkins, 1996, Sarah. & Rhona, 2009 based on the positive relationship of attitudes toward reading and reading performance and is consistent with the findings of (Namdari, 1387). With regard to the overall impact of the attitudes toward reading variable on reading literacy performance is significant, and on the other hand, the indirect and significant impact of home and school language variable on reading literacy performance through effect on attitude variable, indicate that attitudes toward reading plays an intermediate variable role between home and school language and reading literacy performance. Educational implications of this study for teaching reading and to support reading literacy achievement of students could be this that children of bilingual families that their children should be trained in second language at school, can help their children through providing a rich environment for them to read in school language and assist them in reading process which is fundamental of other progresses. It is hoped that the findings of this study could have important educational issues for families and for educational authorities.

### References

- Adib, J., & Mahmoudi, N. (2009). *A Comparison of monolingual and bilingual girl students' academic achievement in Persian lesson according to reading literacy level*, Abstracts of First National Conference on Bilingualism and Education article.
- Baker, L. & Wigfield, A. (1999). *Dimensions of children's motivation for reading and their relations to reading activity and reading achievement*. *Reading Research Quarterly*, 34(4), 452–476.
- Chapman, J.W., & Tunmer, W.E. (2003). *Reading difficulties, reading-related self-Perceptions, and strategies for overcoming negative self-beliefs*. *Reading and Writing Quarterly*, 19, 5–24.
- Chary, M.H. & Kheir, M. (2002). *Verbal Information: the first stone of training building*. Humanities Social Sciences, Shiraz University. Eighteenth round, second edition, consecutive 36.
- Coles, M. & Hall, C. (2002). *Gendered readings: Learning from children's reading choices*. *Journal of Research in Reading*, 25(1), 96–108.
- Farahani, M.N, (2006). *Whether the phonological processing model is suitable to explain dyslexia in normal bilingual students and dyslexic in school students*. *Research in area of Exceptional Children*. Sixth year. No. 3735-768
- Ghasemi, M. (2008). *The examination of parental education effects on the reading literacy performance of fourth grade (based on PIRLS studies 2006)*, MS Thesis, Tehran University of Teacher Education.
- Hall, C. & Coles, M. (1999). *Children's reading choices*. London: Routledge.
- Harrison, C.(2004). *Understanding Reading Development*. Hoff- Ginsberg, E.(1997). *Language development*. Pacific Grove, CA: Brooks/Cole Publishing Company

- John A., Glover, Roger H., & Browning, R. (2006). *Educational Psychology: Principles and applications*. Translated by Alinaghi Kharazi. Tehran: Center for Academic Publication.
- Karimi A.A., & Kabiri, M. (2009). *A comparison of bilingual and monolingual students in reading literacy position based on the international study of reading literacy achievement (PIRLS-2006)*, Abstract of First National Conference on Bilingualism and Education articles.
- Karimi, A. (2005). Evaluation of findings of international study of reading literacy achievement PIRLS 2001. *Journal of education*, XXI(1).
- Karimi, A.A. (2001). *Evaluation of findings of international study of reading literacy achievement PIRLS 2001*. Institute of Education.
- Kush, J.C. & Watkins, M.W. (1996). *Long-term stability of children's attitudes towards reading*. *The Journal of Educational Research*, 89(5), 315–319.
- Lotfabadi, H. (2004). *Educational Psychology*. Tehran: Tehran University Press.
- McKenna, M.C., Kear, D.J. & Ellsworth, R.A. (1995). 'Children's attitudes toward reading: A national survey'. *Reading Research Quarterly*, 30(4), 934–956.
- Morgan, P.L. & Fuchs, D. (2007). *Is there a bidirectional relationship between children's reading skills and reading motivation?* *Exceptional Children*, 73(2), 166–183.
- Mullis, I.V.S., Martin, M.O., Gonzalez, E.J. & Kennedy, A.M. (2003). PIRLS 2001 international report: IEA's study of reading literacy achievement in primary schools in 35 countries. Chestnut Hill, MA: Boston College.
- Mullis, I.V.S., Martin, M.O., Kennedy, A.M. & Foy, P. (2007). PIRLS 2006 international report: IEA's progress in international reading literacy study in primary schools in 40 countries. Chestnut Hill, MA: Boston College.
- Namdari, M. (2008). *The relationship between self-concept, preschool activities, attitudes of parents and students good reading with the reading literacy performance of students of fourth grade primary school (based on PIRLS study 2006)*. MS Thesis Educational Research, Tarbiat Moallem University, Tehran, Iran, Faculty of Psychology and Educational Sciences.
- Papanastasiou, C. (2006). Factors that most from the effective schools reading. Paper presented at the second IEA international research conference.
- Rajabi, M. (2006). *Evaluation of reading comprehension of Turkmen language students with Persian language students*. Master's thesis. Tehran: Allameh Tabatabai University.
- Rider, N. & Susun, C. (2006). Reading achievement and reading self- concept in year 3 children. Australia: NSW, COL05347.
- Sarah, L., & Rhona, J. (2009). Gender differences in reading ability and attitudes: examining where these differences lie, *Journal of Research in Reading*, 32(2), 199–214.
- Smith, M.C. (1990). *A longitudinal investigation of reading attitude development from childhood to adulthood*. *The Journal of Educational Research*, 83, 215–219.
- Tse, K. S., Raymond Y. J. L., & Joseph W. L.L. (2005). Attitude and attainment: A comparison of Hong Kong Singaporean and English student reading. University of Hong Kong. *Research in Education*, 76, 74-88.
- Twist, L., Gnaldi, M., Schagen, I. & Morrison, J. (2004). *Good readers but at a cost? Attitudes to reading in England*. *Journal of Research in Reading*, 27(4), 387–400.
- Winglee M, Kalton. G & Rust, K. (2001). *Handling Item Nonresponse in the U.S. Component of the IEA Reading Literacy Study*. *Journal of Educational and Behavioral Statistics*, 26(3), 343–359.
- Woolfolk, A. (2001). *Educational psychology*. The Ohio State University. 8<sup>th</sup> Edition.

Zandi, B., Arif, M., & Amimpour, Gh. (2009). *Study of writing skills of bilingual children (Kurdish and Turkish) in the primary schools*, Abstract of the first National Conference on Bilingualism and Education articles.