

The Relations of Multiple Intelligences and Foreign Language Learning

Hsin-Yi Huang,
I-Shou University, Taiwan
hyhuang@isu.edu.tw

Abstract— This study analyzes the relations between foreign language learners' multiple intelligences (MI) and foreign language learning. A quasi-experimental design was applied for the study. The following were the findings after the analysis of the collected research data: female learners show more preference to languages than male learners; linguistic intelligence, bodily-kinesthetic intelligence, and musical intelligence are positively related. Based on the research results, the study provides suggestions to instructors, learners, and researchers for future language learning courses and research.

Keywords—multiple intelligences; learning effectiveness; foreign language learning.

I. INTRODUCTION

As foreign language learning and teaching is an important issue in Taiwan, educators and researchers are motivated to seek out effective methodologies to enhance learning effectiveness and classroom outcomes. Among the various theories on foreign language learning and teaching, the theory of multiple intelligences by Howard Gardner (1983) draws attention to the impact on foreign language educational practices. This study analyzes the relationship between foreign language learners' multiple intelligences and learning effects.

II. LITERATURE REVIEW

This section discusses the studies completed in the field of multiple intelligences. Gardner (1983) [3] argued that past intelligence theories are not able to adequately reflect the diversity of intellectual activities in students' daily lives, and he proposed the Multiple Intelligence (MI) theory. Multiple intelligences include linguistic intelligence, logical intelligence, spatial intelligence, bodily-kinesthetic intelligence, musical intelligence, interpersonal intelligence, intrapersonal intelligence, and naturalistic intelligence. Linguistic intelligence is the ability to effectively express oneself with written and spoken words. Bodily-kinesthetic intelligence is the ability to control motions skillfully. Musical intelligence is the ability to be sensitive to music and its components. The objective of the MI theory is not to distinguish between individual differences but to showcase how human beings integrate and use their multiple intelligences. The MI theory has been applied to discussions in various aspects of education [6] [7] [8] [9] [10].

For instance, Cheng (2011) [1] proposed a teaching model for cultivating multiple intelligences leadership. Cheng demonstrated that multiple intelligences (such as interpersonal intelligence, linguistic intelligence, and intrapersonal intelligence) have positive effects on leadership competency. Hsu (2010) [4] found that a multiple intelligences-based English topic curriculum can enhance learners' learning and give instructors an effective course construction. Furthermore, Lien (2011) [5] suggested that "through the implementation of MI-based reading activities, students could progress their English learning, enhance their reading motivation, improve their writing competence, and elaborate creative and pluralistic thinking."

III. RESEARCH METHODOLOGY

This study explores the relation between multiple intelligences (MI) and learning effects for foreign language learners. The use of learning portfolios and a survey of multiple intelligence effects are applied in the research. The quasi-experimental research design is applied to the instructor's teaching model to discover the strategy that enhances teaching and learning effects. The research participants in the experimental group are university students in an Applied English department class. The quasi-experimental research lasted for 18 weeks. The researcher observed and evaluated the study participants every week. During the last week of the research, the Multiple Intelligence Inventory was administered to the participants. The inventory was adapted from the MI inventory of Gardner (1983) [3] and Chang Cang-Min (2001) [1]. The researcher then interviewed the participants after the quasi-experiment was finished. After the research data were collected and analyzed, the statistical analysis table was as follows:

TABLE I. THE STATISTICAL ANALYSIS OF PARTICIPANTS' BACKGROUNDS

Item	Gender	Grades	GEPT	The years of Learning English in Cram School
Amount	Male 10	Junior 29	Have not been tested 14	None 6
	Female 19		Beginning level 8	2years 2
			Intermediate level 6	2~4 years 7
			Middle-advanced level 1	More than 4years 14

DOI: 10.5176/2251-2853_5.2.198

The research participants included 10 male foreign language learners and 19 female foreign language learners. Forty-eight percent of the participants had not taken the General English Proficiency Test (GEPT) which examines the learners' English proficiency and is administrated by The Language Training & Testing Center in Taiwan. Eight participants had passed the beginning level of the test; six participants had passed the intermediate level; and one participant had passed the intermediate-high level. Majority of the participants (79.3%) had experience of learning English in a cram school; two participants had spent two years at a cram school, seven participants had spent two to four years; and fourteen participants had spent four years or more.

IV. RESULTS

This 18-week quasi-experimental research explored the possibility of combining linguistic, bodily-kinesthetic, and musical intelligences to enhance student learning. The Multiple Intelligence Inventory was administered to assess the results. SPSS12 statistical software was utilized for the descriptive statistics. Among the five items of linguistic intelligence, one of the items ("books are very important for me") received the highest average score of 4.21. This reveals that most learners generally agree or strongly agree that books are important learning tools. Among the five items of bodily-kinesthetic intelligence, one of the items ("I am good at imitating others' actions, talking, and behaviors") received the highest average score of 3.24. This reveals that most learners generally agree or strongly agree that they are good at imitation.

Among the five items of musical intelligence, two items ("I can casually sing a song after listening one or two times" and "I often intentionally tap the beat or sing a song") received the highest scores of 4.00. This shows that most learners generally agree or strongly agree that they are fond of music. Based on the statistical data, the foreign language learners in this study demonstrate that they are confident of multiple intelligences such as reading, imitation, and music. Therefore, the instructors in foreign language classrooms should be instructed that tools of role play, videos, music, and filmmaking could be used to teach and motivate learners' interests.

In correlation statistics analysis concerning linguistic intelligence (show in Table 2), Pearson's correlation coefficient between the first item ("Books are very important to me") and the fifth item ("If I had a chance to write for a publication, I would") is 0.049. The significance level is <0.05 and is marked with an asterisk (*). This means that these two dependent variables are related and the relationship is significant. Pearson's correlation coefficient between the second item ("I am good at telling stories and jokes") and the third item ("I like to jingle, pun, or use tongue twisters to entertain others and myself") is 0.008. Its significance level is <0.01 and is marked with two asterisks (**). This means that these two dependent variables are related and very significant. Pearson's correlation coefficient between the fourth item ("In school, subjects such as literature and history

are easier than subjects such as mathematics, biology, and science technology for me") and the fifth item ("If I had a chance to write for publication, I would") is 0.008. Its significance level is <0.01 and marked with two asterisks (**). This means that these two dependent variables are related and very significant.

TABLE II. THE LINGUISTIC INTELLIGENCE CORRELATION STATISTICAL ANALYSIS TABLE

Item	01	02	03	04
Books are very important to me				
I am good at telling stories and jokes				
I like to jingle, pun, or use tongue twisters to entertain others and myself		0.480**		
In school, the subjects such as literary, history are easier than the subjects such as mathematics, biology, and science technology to me		P=0.008		
If I had a chance to write for publication, I would	0.368*			0.485**
	P=0.049			P=0.008

* (As $p<0.05$, the result is statistically significant.)

** (As $p<0.01$, the result is statistically highly significant.)

*** (As $p<0.001$, the result is statistically extremely significant.)

In correlation statistics analysis concerning bodily-kinesthetic intelligence, Pearson's correlation coefficient between the seventh item ("I like to do things by myself, such as sewing, weaving, carving, carpentry, model making") and the tenth item ("I think I am good at handiwork techniques or movement coordination in other ways") is 0.000. Its significance level is <0.001 and marked with three asterisks (***). This means that these two dependent variables are related and extremely significant. Pearson's correlation coefficient between the ninth item ("I like to take apart and compose things") and the tenth item ("I think I am good at handiwork techniques or movement coordination in other ways") is 0.001. Its significance level is <0.01 and marked with two asterisks (**). That means these two dependent variables are related and very significant.

TABLE III. THE BODILY-KINESTHETIC INTELLIGENCE CORRELATION STATISTICAL ANALYSIS TABLE

Item	06	07	08	09
I am good at one or more than one sports.				
I like to do things by myself, such as sewing, weaving, carving, carpentry, model making.				
I am good at imitate others' action, talking, and behaviors.				
I like to take apart and compose things.				
I think I am good at handiwork techniques or movement coordination in other ways.		0.737***		0.574**
		P=0.000		P=0.001

* (As $p<0.05$, the result is statistically significant.)

** (As $p<0.01$, the result is statistically highly significant.)

*** (As $p<0.001$, the result is statistically extremely significant.)

In correlation statistics analysis concerning musical intelligences, Pearson's correlation coefficient between the eleventh item ("I am immediately aware when music is out of tune") and the twelfth item ("I can play more than one musical instrument or join a chorus") is 0.000. Its significance level is <0.001 and marked (***). This means the two dependent

variables are related and extremely significant. Pearson's correlation coefficient between the eleventh item ("I am immediately aware when music is out of tune") and the thirteenth item ("I can tap the beat along with music and with a good sense of rhythm") is 0.000. This means that these two dependent variables are related and extremely significant. Pearson's correlation coefficient between the eleventh item ("I am immediately aware when music is out of tune") and the fourteenth item ("After I listen to a song one or two times, I can sing the song casually") is 0.011. Its significance level is <0.05 marked (*). This means that these two dependent variables are related and significant. Pearson's correlation coefficient between the eleventh item ("I am immediately aware when music is out of tune") and the fifteenth item ("I often unwittingly tap the beat or sing a song") is 0.000. Its significance level is <0.001 and marked (***). This means that these two dependent variables are related and extremely significant.

Pearson's correlation coefficient is 0.000 with a significance level of 0.001 between the twelfth item and the thirteenth item (***); between the twelfth item and the fourteenth item (**); between the twelfth item and the fifteenth item (**); between the thirteenth item and the fourteenth item (***); between the thirteenth item and the fifteenth item (***); and between the fourteenth item and the fifteenth item (***). Thus, all these dependent variables are extremely significantly related.

TABLE 4. THE MUSICAL INTELLIGENCE CORRELATION STATISTICAL ANALYSIS TABLE

Item	11	12	13	14
I am immediately aware when music is out of tune.				
I can play more than one musical instrument or join a chorus .	0.668***			
I can beat times along with music with good sense of rhythm.	0.647***	0.635***		
After I listen to a song one or two times, I can sing the song casually.	0.464*	0.654***	0.665***	
I often unwittingly tap the beat or sing a song.	0.759***	0.602**	0.753***	0.621***

* (As $p < 0.05$, the result is statistically significant.)

** (As $p < 0.01$, the result is statistically highly significant.)

*** (As $p < 0.001$, the result is statistically extremely significant.)

V. CONCLUSION

In conclusion, there are some major findings of this study. First, female learners reveal more preference to languages than male learners. Second, linguistic intelligence, bodily-kinesthetic intelligence, and musical intelligence are positively related.

When instructors design teaching activities and group practices, learners' multiple intelligences should be taken into consideration.

Because the results show confidence for and interests in imitation, songs, and rhythm (among others), instructors should combine role play, stage play, or music with instruction for the promotion of learning motivation. Furthermore,

exposure to multiple cultures and diverse teaching and learning activities could inspire the development of learners' multiple intelligences.

REFERENCES

- [1] Cheng, T. W. (2011). A Study on Teaching Model Development for Cultivating Multiple Intelligences Leadership through Living Technology Curriculum. PHD.
- [2] Digital teaching resources website of the Ministry of Education in Taiwan. https://isp.moe.edu.tw/resources/search_content.jsp?mo=592813.
- [3] Gardner, H. (1983). *Frames of Mind: The Theory of Multiple Intelligences*. New York: BasicBooks.
- [4] Hsu, C. F. (2010). An Action Research of Multiple Intelligences Theory in Curriculum Design of English in Junior High Schools. Master Thesis.
- [5] Lien, P. C. (2011). The Implementation of Multiple Intelligence Theory in a Modified EFL Extensive Reading Program. Master Thesis.
- [6] Multiple Intelligences. http://teacher.ks.edu.tw/resource_download.php?sn=2476&f_sn=3746.
- [7] Zhang, C. M. (2001). An action research of a thematic exploration through a multiple intelligence learning center approach. Master Thesis.
- [8] Armstrong, T. (1994). *Multiple intelligences in the classroom*. Alexandria, VA.: Association for Supervision and Curriculum Development.
- [9] Campbell, L., & Campbell, B. (1999). *Multiple Intelligences and Student Achievement: Success Stories from Six Schools*. Alexandria, VA.: Association for Supervision and Curriculum Development.
- [10] Campbell, L., Campbell, B., & Dickinson, D. (1996). *Teaching & Learning through Multiple Intelligences*. Boston: Allyn & Bacon.