

The Relationship between Students' Strengths in Multiple Intelligences and Their Achievement in Learning English Language

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Abstract—This article reports the findings of a study conducted in an urban secondary school in Perak, Malaysia. This study is about the relationship between students' strengths in multiple intelligences and achievement in learning English. Multiple intelligences, proposed by Gardner (1983), look at the multiple cognitive capacities across human thinking. They include the verbal/linguistic, logical/mathematical, visual/spatial, bodily/kinesthetic, musical/rhythmic, interpersonal, intrapersonal and naturalistic intelligences. Findings from this study suggest that in a learning environment where multiple intelligences may not be actively used, there is a tendency to have weak and negative correlation between multiple intelligences and English language achievement. Yet, there are distinct differences in the relationship between the two streams of Science and Art regarding the subjects they take. Practical implications for these findings recommend that teachers ought to exploit multiple intelligences in the teaching and learning processes to provide opportunities for the students to enhance their multiple intelligences.

Index Terms—multiple intelligence, English language achievement, instructional strategy

I. INTRODUCTION

Gardner (1983) proposed that '... there is not just one form of cognition which cuts across all human thinking. There are multiple intelligences with autonomous intelligences capacities.' It has since attracted a lot of attention in the field of education as it affects how learning takes place within the individual and its implication on teaching. Students have the capacity to progress in all of the intelligences provided that they are given the opportunity to activate them. This is the responsibility of the teachers as educators. If not most practitioners would agree that 'one size does not fit all'. This view concurs with Ebeling (2000) who said that teachers should expect that some students could not learn what has been taught because of their diversity of needs. A factor like this should be taken seriously in improving their achievement in the language. Invariably though, they will excel more in some of the intelligences than the others.

Gardner (1983) suggested that our instructional methods must undergo a revolution if we are to reach all students who have at least eight ways of knowing. This revolution must start with awareness of both learners and practitioners on the issue. The teacher has the key to unlock the learners' full potential by designing classroom activities to develop all of their multiple intelligences (Lazear, 1994). Once student adapts at using his intelligences effectively through practice and exposure, then learning can easily be an independent venture.

The innovative approach to the teaching of the English language has also affected the Malaysian education system. Multiple intelligences as a pedagogical consideration was first introduced into the Malaysian Smart-School Curriculum in 1998 (Kementerian Pendedikan Malaysia. Pusat Perkembangan Kurikulum, 1997). It was later introduced as one of the pedagogical models during in service courses for the revised common syllabus for all Malaysian schools beginning with the 13 and 16 years old students (Kementerian Pendedikan Malaysia. Pusat Perkembangan Kurikulum, 2007). Teachers were expected to teach the language using the suggested multiple intelligences approaches in their classes.

II. REVIEW OF LITERATURE

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Reese (2002) rightly argued that there is no “right” or “wrong” way to learn and there is no “good or bad” learning style. What matters most is what works for an individual learner. A student who has found his own learning styles that best fits his or her own intelligences has found the “right” way to learn. This is an argument that both practitioners and learners should agree on. Most often in traditional schools the opportunity to use these multiple intelligences effectively is lacking. Armstrong (cited in Fogarty & Bellanca, 1995) lamented that schools have become ‘worksheet wastelands’ that are saturated with paper and pencil tasks.

The theory of multiple intelligences formulated by Gardner (1983) has great potential in revolutionizing our common concept of human capabilities (Christison, 1996). Fernie (cited in Fogarty & Bellanca, 1995) added that his ideas were also based on his vast experiences in synthesizing knowledge beyond conventions and also based on empirical evidences from his Project Zero. This project recorded child development in a learning environment that caters to multiple intelligences over a period of time with emphasis to improve on techniques and strategies used in the classroom (Fogarty & Bellanca, 1995). Only the first eight intelligences are considered for the purpose of this study since they are the currently popular ones. There are many definitions of the eight intelligences given by proponents of the theory. Here, the ones stated by Nolen (2003) are taken as reference for our deliberation.

A. Verbal/Linguistic Intelligence

This intelligence involves those with the mastery of language and they have the tendency to think in words and are highly skilled listeners. They are better memorizers of information and they enjoy storytelling and jokes. Their linguistic intelligences enable them to concentrate on grammar and vocabulary and they are efficient explainers, persuaders or entertainers. Teachers can give tasks on writing, reading and presenting oral reports about various aspects of their lives.

B. Logical/Mathematical Intelligence

This intelligence consists of the ability to detect patterns, reason deductively, and think logically. It is noted that they are usually the ones who do well in traditional classrooms because they are able to follow logical sequencing from the teaching. This intelligence often shows up early in life like savants who are greatly gifted in calculations.

C. Visual/Spatial Intelligence

Having these intelligences would enable one to manipulate and create mental images in order to solve problems. They perceive the visual world accurately, perform transformations and modifications on their perceptions, and are able to recreate them in the absence of any physical stimuli. Teachers should consider using pictures or photographs, films, diagrams and other visuals.

D. Bodily/Kinesthetic Intelligence

We can observe people with this intelligent quite commonly because they use their body in very expressive and skillful ways for a distinct purpose. They are able to understand the world through their own body. They display very fine motor skills of their fingers and hands and the overall control of their body movements. They are also characterized with the ability to manipulate objects and to carry out precise and delicate movements. Kinesthetic is the ability to act gracefully and to apprehend the actions of other people or objects directly. They are, therefore, good in the performing arts with the ability to capture emotions through their body movements. Teaching entails the use of manipulative and physical movement since they like to touch things in order to learn and are often restless. Learning tools should be used to accommodate their ‘busy’ hands.

E. Musical/Rhythmic Intelligence

Those individuals with high musical intelligence use sound to the fullest extent. They understand well, the pitch, rhythm and timbre of music and can convey their emotions through it. Most people discover this intelligence at an early age. They are usually able to read music, critique performances and use musical-critical categories. Though often neglected in our culture and especially formal education, they can act as a way of capturing feelings, of knowing and understanding feelings, which is also important in education. It is also tied to other intelligences because it contains elements of ratio and regularity, which are also representative of mathematical reasoning.

F. Interpersonal Intelligence

An individual’s sense of self, which consists of personal feelings and aspirations and their special responses to others, can also impact on the way a person learns. The interpersonal intelligence is the ability to understand, perceive and discriminate the moods, feelings, motives and intelligences of others. Those most often with such intelligence are: teachers, politicians, religious leaders, salesman, skilled parents, therapists or counselors. The learning and the use of a culture’s symbolism can help develop this intelligent. It is mostly intrinsic to the individual and does not require much from others. Observation and the experience are the most suitable tools to improve this intelligence.

G. Intrapersonal Intelligence

Those who display intrapersonal intelligence are often imaginative, original, patient, disciplined, motivated and have a great deal of self-respect. They developed it from internal sources from within the person. In class, they need as much

praise as they can get. Its development depends on how the learner wishes to use it. Teachers must think about 'imagination' exercises that could reveal their inner thoughts, reflections and feelings. Long-term projects could also be useful in that they strengthen their abilities to be patient and follow procedure. They are able to see what needs to be done in their minds to eventually make it happen.

H. Naturalistic Intelligence

Like the personal intelligences, naturalists could also benefit from observation and experience. It involves the ability to understand the nature's symbols and to respect the delicate balance of nature that has allowed us to live. They genuinely appreciate the intertwining of natural forces. They consider the future of the world first and are very much concerned and alarmed at the destruction and disruption of our planet. They often show expertise in the recognition and classification of plants and animals since they are a natural part of the environment. These children benefit a lot from learning outdoors in activities like: observing nature, labeling and mounting specimens, noticing changes in the environment, sorting articles for nature, nature hike or field trips or caring for pets. They are very comfortable with hands-on activities that involve natural objects.

We may be able to sense what our intelligences are and have within ourselves the capacity to activate them but we may not know how to use them effectively. Thus, according to Nolen (2003), the theory requires teachers to adjust their instructional strategies towards meeting the students' individual needs. This will not only activate their learning but may even help them to discover how to do it effectively.

Many studies were carried out by researchers on the efficacy of using multiple intelligences activities to assist learning the English language. When reading comprehension skills of fourth grade students in an American metropolitan city were found to be deficient, Gaines and Lehmann (2002) reported that multiple intelligences strategies as intervention had improved the situation. Furthermore, Reidel et al. (2003) had similar findings in a study done in an Illinois elementary school where there was an increase in reading comprehension and skill mastery that built a stronger, more confident and motivated reader. Shah and Thomas (2002) studied a 12-week program to improve spelling through multiple intelligences strategies. The result was an increase in the retention of high spelling frequency words.

I. Research Questions

Many studies have revealed that multiple intelligences play an important role in the learning process. Thus, the purpose of this research was to investigate the relationship between students' strengths in multiple intelligences and achievement in learning English. More specifically, the study sought to answer the following research questions:

1. What is the relationship between students' strengths in each of their multiple intelligences and their achievement in learning the English language?
2. Do students in the Arts and Science streams differ in the correlation of their strengths in multiple intelligences and their English language achievement?
3. Which of the multiple intelligences predicts the strongest influence on the students' English language achievement?
4. What are the differences between Science and Art streams students in their multiple intelligences strengths that predict the strongest influence on English language achievement?

III. METHODOLOGY

This research is exploratory in nature and as such as no attempt has been made to formulate hypothesis for the study. Both descriptive and inferential methods are used for the analysis. They include correlation and multiple regressions. These methods are to explain the research questions about the relationship between students' strength in each of their multiple intelligences and their achievement in learning the English language.

The variables consist of the multiple intelligences test scores and the students' English language final exam results. They are selected based on a theoretical basis and from personal experience and thus would make the interpretation of the results more meaningful (Gay & Airasian, 2009).

The target population for this study was Form 4 (16 years old) male secondary school students from an urban background. 120 Form 4 male students were randomly selected as the participants of this study. They consisted of 60 Form 4 Science students from three classes and another 60 Form 4 Art students from three other classes. These boys were of mixed abilities as far as their competency in the English language was concerned.

Firstly, the test was administered to all the Science and Art stream students. This would avoid the irksome situation of having some students feeling left out from the study. In any case, all of them would benefit from the knowledge of their own multiple intelligences profile.

Then, the required number of 60 students from each stream was chosen at random from the number taken. The randomly selected ones were then numbered sequentially for easier data analysis. This method was used because of the relatively small and manageable size of the sampling set for the study.

A. Multiple Intelligences Test

A multiple intelligent test adapted from an inventory designed by the Learning Disabilities Resources Community (LRDC), Ontario, Canada was used to determine the students' strength in their multiple intelligences (see the

Appendix). The organization could be contacted at: The Adaptive Technology Resource Centre (ATRC), University of Toronto, 130, St. George Street, First Floor, Toronto, Ontario, Canada M5S 3H1.

The instrument consisted of 80 items, 10 for each of the eight intelligences. Each item is a description of one of the multiple intelligences that is manifested in their behaviors, feelings and attitudes. For each item, the subjects were instructed to choose from a 5-level Likert scale. They had used this scale to indicate their level of agreement with the item concerned. As there are 10 items with a maximum of 5 marks for each item, the total score for each set of intelligence is 50. The intelligence with the highest total represents the student's strongest intelligence. This produced a multiple intelligences profile for each student.

Work then commenced on ensuring that the translated instrument was reliable. This was carried out through back-to-back translation and a pilot test on 35 students not from the chosen sample. Reliability analysis was carried out using the 'Cronbach Alpha' method. The test was based on an alpha limit higher than 0.6 to indicate reliability. All the collected data for the research was analyzed using the 'Statistical Package for Social Sciences' 11.0 versions (SPSS 11.0). It was used for both the instrument pilot testing stage and the actual data collection.

B. English Language Achievement Test

The students' Form 4 Final English Language Examination results were used for the achievement scores. The test scores represented each student's summative performance in the English language subject for that year. It showed the range of achievement between those who excelled in the language and those who did not. The exam paper was based on the format of the 1119 English language 1 & 2 SPM Examination papers used by the Examination Syndicate of the Malaysian Ministry of Education. It is designed to test the students' ability in using the English language in the productive skills of reading and writing. It is the content and subscription to the Malaysian Educational curriculum specifically through the Secondary Level English Language Syllabus.

IV. FINDINGS

A description of the respondents' multiple intelligences was made using descriptive analysis involving the use of means and standard of deviations. This can be seen in table 1 below. This statistical examination only looked at the multiple intelligences which at this point are not yet seen in relation to their English language achievement. It is noted that for easy reference, the acronyms (in brackets) after each word or phrase will be used henceforth in the later tables.

The analysis of data reveals that respondents from both streams have the highest disposition for the interpersonal intelligence (Mean = 3.38). This is followed by their intelligences in the logical/mathematical (Mean = 3.35); intrapersonal (Mean = 3.24); visual/spatial (Mean = 3.08) and the naturalistic (Mean = 3.05).

On the other hand, the students' multiple intelligences that were less used by the respondents are the musical/rhythmic (Mean = 2.99), bodily/kinesthetic (Mean = 2.98) and the verbal/linguistic (Mean = 2.97).

TABLE 1
MEAN SCORES AND STANDARD DEVIATIONS OF RESPONDENTS MULTIPLE INTELLIGENCES

Multiple Intelligences	Science & Arts		Science		Arts	
	(n=120)		(n=60)		(n=60)	
	Mean	SD	Mean	SD	Mean	SD
Verbal/Linguistic (VL)	2.97	0.63	2.81	0.57	3.14	0.65
Logical/Mathematical(LM)	3.35	0.71	3.31	0.65	3.38	0.78
Visual/Spatial (VS)	3.08	0.61	2.94	0.53	3.22	0.66
Bodily/Kinesthetic (BK)	2.98	0.66	2.82	0.53	3.14	0.74
Musical/Rhythmic (MR)	2.99	0.73	2.87	0.69	3.1	0.76
Interpersonal (INTERP)	3.38	0.63	3.37	0.54	3.39	0.72
Intrapersonal (INTRAP)	3.24	0.68	3.14	0.65	3.33	0.69
Naturalistic (NAT)	3.05	0.84	2.81	0.79	3.30	0.84

A similar distribution pattern could be seen for both the Science and Arts stream students. However, the total mean scores obtained from the Art students for each sub-scale of multiple intelligences shows a more definitive or consistent pattern as compared to the Science stream students. Therefore, to identify the differences in mean scores of the multiple intelligences statistically, a t-test for comparative analysis was carried out. The analyzed data for this purpose can be seen in table 2 below.

The analysis of t-test reveals that there is a significant difference for the multiple intelligences of verbal/linguistic ($t = -2.99$; $p = 0.003$); visual/spatial ($t = -2.51$; $p = 0.0013$), bodily/kinesthetic ($t = -2.67$; $p = 0.0009$) and naturalistic ($t = -3.24$; $p = 0.002$). Conversely, an analysis of the data shows that the multiple intelligences of logical/mathematical, musical/rhythmic, interpersonal and intrapersonal have no significant differences at the level $p < 0.05$.

The below results explain that the mean scores for the multiple intelligences of verbal/linguistic, visual/spatial, bodily/kinesthetic and naturalistic are higher for the Art students than for the Science students. In other words, the Art stream students have a stronger disposition for this multiple intelligences than their Science counterparts. Nevertheless, for the multiple intelligences of logical/mathematical, musical/rhythmic, interpersonal and intrapersonal, the statistical analysis proves that both Science and Art stream students have similar low degree of use for them.

TABLE 2
STATISTICAL DATA FOR T-TEST TO SEE THE DIFFERENCES IN THE MEAN SCORES OF THE MULTIPLE INTELLIGENCES BETWEEN SCIENCE AND ART STUDENTS

Multiple Intelligences	Science & Arts (n=120)		Science (n=60)		t value	Sig.	F value
	Mean	SD	Mean	SD			
VL	2.81	0.56	3.14	0.65	-2.99*	0.003	1.39
LM	3.31	0.65	3.38	0.78	-0.49	0.622	4.11*
VS	2.94	0.53	3.22	0.66	-2.51*	0.013	6.04*
BK	2.82	0.53	3.13	0.66	-2.67*	0.009	9.39*
MR	2.87	0.69	3.11	0.75	-1.75	0.082	1.10
INTERP	3.37	0.53	3.38	0.72	-0.129	0.898	7.83*
INTRAP	3.14	0.65	3.33	0.69	-1.47	0.142	0.697
NAT	2.81	6.79	3.3	0.83	-3.24*	0.002	1.56

*Sig. at $p < 0.05$

To answer the first research question, the relationship between the variables are analyzed by using Pearson Correlation while the strength of the relationships are interpreted based on Gay and Airasian (2009), where a correlation of 0.8 and above is interpreted as 'very high', 0.6 to 0.8 as 'high', 0.4 to 0.6 as 'average' and less than 0.4 as 'weak' respectively.

TABLE 3
PEARSON CORRELATION ANALYSIS ON STUDENTS MULTIPLE INTELLIGENCES AND ENGLISH LANGUAGE ACHIEVEMENT

	VL	LM	VS	BK	MR	INTER	INTRA	NAT	ACHV
VL	-								
LM	0.652*	-							
VS	0.447*	0.440*	-						
BK	0.329*	0.359*	0.567*	-					
MR	0.420*	0.303*	0.492*	0.461*	-				
INTER	0.675*	0.605*	0.469*	0.332*	0.421*	-			
INTRA	0.511*	0.449*	0.358*	0.293*	0.309*	0.537*	-		
NAT	0.677*	0.623*	0.546*	0.472*	0.445*	0.637*	0.568*	-	
Achievement (ACHV)	-0.222*	-0.015	-0.305*	-0.249*	-0.244*	-0.018	-0.112	-0.341*	-

*Sig. at level $p < 0.05$

From the table above, it could be seen that for all the students there are significant correlations between some of their multiple intelligences and English language achievement. However, these relationships are negatively correlated: verbal/linguistic ($r = -0.222$; $p < 0.005$), visual/spatial ($r = -0.305$; $p < 0.05$), bodily/kinesthetic ($r = -0.249$; $p < 0.05$), musical/rhythmic ($r = -0.244$; $p < 0.05$), and naturalistic intelligence ($r = -0.341$; $p < 0.05$). Looking at the strengths among these relationships, their correlation coefficient values (r is less than 0.4) are all on the weak side. Nevertheless, the multiple intelligences for logical/mathematical, interpersonal and intrapersonal do not show any significant relationship with language achievement.

The second research question requires a comparative analysis of the correlation values for the variables in both Science and Art streams. Table 4 below helps with this investigation.

As indicated in table 4, for the Science stream students, only their logical/mathematical intelligence ($r = 0.268$; $p < 0.05$) have a significant positive relationship with their achievement in the language. However, the correlation coefficient value is small (r is less than 0.4) and thus it shows only a weak relationship. At the same time, it can be seen that in the Science stream, all the other multiple intelligences do not show a significant relationship with their English language achievement.

TABLE 4
PEARSON COEFFICIENT ANALYSIS ON THE COMPARISON BETWEEN SCIENCE AND ART STUDENTS' CORRELATION OF
MULTIPLE INTELLIGENCES AND ENGLISH LANGUAGE ACHIEVEMENT

		VL	LM	VS	BK	MR	INTER	INTRA	NAT	ACHV
VL	Sc.	-								
	Art	-								
LM	Sc.	0.521*	-							
	Art	0.770*	-							
VS	Sc.	0.142	0.136	-						
	Art	0.603*	0.649*	-						
BK	Sc.	0.100	0.006	0.324*	-					
	Art	0.401*	0.576*	0.670*	-					
MR	Sc.	0.321*	0.069	0.259*	0.308*	-				
	Art	0.457*	0.479*	0.635*	0.535*	-				
INTER	Sc.	0.501*	0.450*	0.178	0.077	0.258*	-			
	Art	0.826*	0.704*	0.658*	0.479*	0.542*	-			
INTRA	Sc.	0.302*	0.315*	0.075	0.152	0.042	0.244	-		
	Art	0.658*	0.553*	0.540*	0.355*	0.511*	0.753*	-		
NAT	Sc.	0.573*	0.534	0.343*	0.251	0.269*	0.509*	0.445*	-	
	Art	0.715*	0.720*	0.649*	0.564*	0.556*	0.776*	0.659*	-	
ACHV	Sc.	0.152	0.268*	-0.083	0.006	-0.132	0.072	0.187	-0.010	-
	Art	-0.154	-0.156	-0.323*	-0.172	0.261*	-0.081	-0.082	-0.371*	-

*Sig. at level $p < 0.05$

On the other hand, for the Art stream students, the analysis shows that their multiple intelligences for visual/spatial ($r = -0.323$; $p < 0.05$); musical/rhythmic ($r = -0.261$; $p < 0.05$) and naturalistic ($r = -0.371$; $p < 0.05$) have significant relationships but are negatively correlated with the respondents language achievement. In addition, it could be seen that these relations have very low correlation coefficient (r is less than 0.4) and are, therefore, rather weak.

Regarding the third research question, the strengths in the relationship between the students multiple intelligences and their English language achievement could be predicted more accurately by using the multiple regression analysis as can be seen in the table 5 below.

The research findings show that as much as 29.2% of the variants were contributed by all the 8 multiple intelligences towards the variable for language achievement. It is also revealed that the multiple intelligences for verbal/linguistic ($\beta = -0.26$), logical/mathematical ($\beta = -0.33$), musical/rhythmic ($\beta = -0.08$), naturalistic ($\beta = -0.47$), and interpersonal ($\beta = -0.37$) have significant influences on language achievement.

Nevertheless, the analysis reveals that interpersonal intelligence predicts the strongest positive influence on language achievement as compared to logical/mathematical intelligence. At the same time, it can be seen that their naturalistic intelligence predicts the strongest negative influence on achievement as compared to verbal/linguistic and musical/rhythmic intelligences.

TABLE 5
MULTIPLE REGRESSION ANALYSIS ON THE INFLUENCE OF STUDENTS' MULTIPLE INTELLIGENCES ON ENGLISH LANGUAGE
ACHIEVEMENT

Variables	B	β	T value	Sig.
(Constant)	64.44	-	4.34	0.00
VL	-10.59	-0.26	-2.00	0.04*
LM	11.96	0.33	2.83	0.00*
VS	-8.87	-0.21	-1.89	0.06
BK	-1.87	-0.04	-0.45	0.65
MR	-2.73	-0.08	-0.77	0.44
INTER	15.42	0.37	3.06	0.00*
INTRA	1.89	0.05	6.48	0.63
NAT	-14.49	-0.47	-3.58	0.00*
R= 0.541; R square= 0.292; Adj. R square= 0.24				

To answer the fourth research question, a multiple regression analysis was carried out on the data variables of both streams which is displayed in table 6 below.

TABLE 6
MULTIPLE REGRESSION ANALYSIS ON THE INFLUENCE OF STUDENTS' MULTIPLE INTELLIGENCES ON ENGLISH LANGUAGE ACHIEVEMENT: COMPARISON BETWEEN SCIENCE AND ART STUDENTS

Variables	Science Stream			Art stream		
	B	BETA	T Value	B	Beta	T Value
(Constant)	39.46	-	1.981	41.42	-	4.027
VL	4.23	0.157	0.898	-3.25	-0.139	-0.588
LM	7.33	0.31	1.891	3.88	0.197	0.951
VS	-1.38	-0.048	-0.334	-9.25	-0.400	-2.081*
BK	2.96	0.102	0.717	3.39	0.164	0.972
MR	-3.27	-0.148	-1.015	-1.77	-0.088	-0.561
INTER	0.37	0.013	0.082	15.97	0.758	2.984*
INTRA	4.02	0.171	1.174	-1.95	-0.089	-0.492
NAT	-6.19	-0.319	-1.666	-13.27	-0.727	-3.513*
R = 0.409 R ² = 0.167 Adj. R ² = 0.037				R = 0.582 R ² = 0.339 Adj. R ² = 0.235		

*Sig. at level $p < 0.05$

The analysis shows that for the Science stream students, there is not even one of their intelligences which is significantly influential on the respondents' English language achievement. In contrast, the students from the Art stream have three multiple intelligences that are significantly influential on their language achievement. They are the multiple intelligences of visual/spatial ($\beta = -0.400$), interpersonal ($\beta = -0.758$), and naturalistic ($\beta = -0.727$). Of the three multiple intelligences, the interpersonal predicts the strongest positive influence on the respondents' language achievement. It is also noted that the naturalistic intelligence has the strongest negative predictor on the Art students' language achievement.

V. DISCUSSION

The four research questions have resulted in the revelation of the following findings:

Generally, for all the students it is discovered that there are some significant negative correlations between students' multiple intelligences and their English language achievement. They are the multiple intelligences of verbal/linguistics, visual/spatial, bodily/kinesthetic, musical/rhythmic, and naturalistic intelligence. The strengths between these relationships are all quite weak. On the other hand, the multiple intelligences for logical/mathematical, interpersonal and intrapersonal do not show any significant relationship with language achievement.

For the Science stream students, only their logical/mathematical intelligence has a significant positive relationship with their achievement in the language. Nonetheless, the relationship is a weak one. All the other multiple intelligences do not show a significant relationship with their English language achievement. It is, however, different for the Art stream students. Their strengths in multiple intelligences for visual/spatial, musical/rhythmic, and naturalistic have significant but negative and weak relationship with the respondents' language achievement.

All the eight multiple intelligences were shown to contribute the same predicted influence towards the students' language achievement. The interpersonal intelligence shows the strongest significant positive influence on language achievement followed by logical/mathematical intelligence. Whereas naturalistic intelligence shows the strongest significant but negative influence on language achievement, followed by the verbal/linguistic and musical/rhythmic intelligences.

For the Science stream students, there is not even one of their multiple intelligences that are predicted to have a significant influence on the respondents' English language achievement. This is in contrast to the Art stream students, where their interpersonal intelligence is the only significant predictor with the strongest positive influence on the respondents' language achievement. Yet, their naturalistic and visual/spatial intelligences predict significantly negative influence on their language achievement.

VI. CONCLUSION

This study investigates the relationship between the students' strength in multiple intelligences and their achievement in the English language. What the results can conclude for this study is that in an environment where multiple intelligences may not have a strong presence in the classroom practice, both learners and practitioners may be unable to gain the best results. In a nutshell, this study could help teachers to consider how best to teach English language with multiple intelligences in mind. They can organize the class activities in such a way to develop all students multiple intelligences. It could also encourage the learners to use multiple intelligences to learn English language as they become properly aware of the issue. Having adjusted at utilizing their intelligences efficiently through practice and experience, the learners can easily learn autonomously.

APPENDIX LRDC MULTIPLE INTELLIGENCES TEST

What are my learning strengths?

Research shows that all human beings have at least eight different types of intelligences. Depending on your background and age, some intelligences are more developed than others. This activity will help you find out what your strengths are. Knowing this, you can work to strengthen the other intelligences that you do not use as often.

Verbal/Linguistic Intelligence <input type="checkbox"/> I enjoy telling stories and jokes <input type="checkbox"/> I have a good memory for trivia <input type="checkbox"/> I enjoy word games (e.g. Scrabble & puzzles) <input type="checkbox"/> I read books just for fun <input type="checkbox"/> I am a good speller (most of the time) <input type="checkbox"/> In an argument I tend to use put-downs or sarcasm <input type="checkbox"/> I like talking and writing about my ideas <input type="checkbox"/> If I have to memorize something I create a rhyme or saying to help me remember. <input type="checkbox"/> If something breaks and won't work, I read the instruction book first <input type="checkbox"/> For a group presentation I prefer to do the writing and library research	Logical/Mathematical intelligence <input type="checkbox"/> I really enjoy math class <input type="checkbox"/> I like logical math puzzles or brain teasers <input type="checkbox"/> I find solving math problems to be fun <input type="checkbox"/> If I have to memorize something I tend to place events in a logical order <input type="checkbox"/> I like to find out how things work <input type="checkbox"/> I enjoy computer and any math games <input type="checkbox"/> I love playing chess, checkers or Monopoly <input type="checkbox"/> In an argument, I try to find a fair and logical solution <input type="checkbox"/> If something breaks and won't work, I look at the pieces and try to figure out how it works <input type="checkbox"/> For a group presentation I prefer to create the charts and graphs
Visual/Spatial Intelligence <input type="checkbox"/> I prefer a map to written directions <input type="checkbox"/> I day dream a lot <input type="checkbox"/> I enjoys hobbies such as photography <input type="checkbox"/> I like to draw and create <input type="checkbox"/> If I have to memorize something I draw a diagram to help me remember <input type="checkbox"/> I like to doodle on paper whenever I can <input type="checkbox"/> In a magazine, I prefer looking at the pictures rather than reading the next <input type="checkbox"/> In an argument I try to keep my distance, keep silence or visualize some solution <input type="checkbox"/> If something breaks and won't work I tend to study the diagram of how it works <input type="checkbox"/> For a group presentation I prefer to draw all the pictures	Bodily/Kinesthetic Intelligence <input type="checkbox"/> My favorite class is gym since I like sports <input type="checkbox"/> I enjoys activities such as woodworking, sewing and building models <input type="checkbox"/> When looking at things, I like touching them <input type="checkbox"/> I have trouble sitting still for any length of time <input type="checkbox"/> I use a lot of body movements when talking <input type="checkbox"/> If I have to memorize something I write it out a number of times until I know it <input type="checkbox"/> I tend to tap my fingers or play with my pencil during class <input type="checkbox"/> In a argument I tend to strike out and hit or run away <input type="checkbox"/> If something breaks and won't work I tend to play with the pieces to try to fit them together <input type="checkbox"/> For a group presentation I prefer to move the props around, hold things up or build a model
Musical/Rhythmic Intelligence <input type="checkbox"/> I enjoy listening to CD's and the radio <input type="checkbox"/> I tend to hum to myself when working <input type="checkbox"/> I like to sing <input type="checkbox"/> I play a musical instrument quite well <input type="checkbox"/> I like to have music playing when doing homework or studying <input type="checkbox"/> If I have to memorize something I try to create a rhyme about the event <input type="checkbox"/> In an argument I tend to shout or punch or move in some sort of rhythm <input type="checkbox"/> I can remember the melodies of many songs <input type="checkbox"/> If something breaks and won't work I tend to tap my fingers to a beat while I figure it out <input type="checkbox"/> For a group presentation I prefer to put new words to a popular tune or use music	Interpersonal Intelligence <input type="checkbox"/> I get along well with others <input type="checkbox"/> I like to belong to clubs and organizations <input type="checkbox"/> I have several very close friends <input type="checkbox"/> I like helping teach other students <input type="checkbox"/> I like working with others in groups <input type="checkbox"/> Friends ask my advice because I seem to be a natural leader <input type="checkbox"/> If I have to memorize something I ask someone to quiz me to see if I know it <input type="checkbox"/> In an argument I tend ask a friend or some person in authority for help <input type="checkbox"/> If something breaks and won't work I try to find someone who can help me <input type="checkbox"/> For a group presentation I like to help organize the group's efforts
Intrapersonal Intelligence <input type="checkbox"/> I like to work alone without anyone bothering me <input type="checkbox"/> I like to keep a diary <input type="checkbox"/> I like myself (most of the time) <input type="checkbox"/> I don't like crowds <input type="checkbox"/> I know what I am good at and what I am weak at <input type="checkbox"/> I find that I am strong-willed, independent and don't follow the crowds <input type="checkbox"/> If I have to memorize something I tend to close my eyes and feel the situation <input type="checkbox"/> In an argument I will usually walk away until I calm down <input type="checkbox"/> If something breaks and won't work, I wonder if it's worth fixing up <input type="checkbox"/> For a group presentation I like to contribute something that is uniquely mine, often based on how I feel	Naturalist Intelligence <input type="checkbox"/> I am keenly aware of my surroundings and of what goes on around me <input type="checkbox"/> I love to go walking in the woods and looking at the trees and flowers <input type="checkbox"/> I enjoy gardening <input type="checkbox"/> I like to collect things (e.g., rocks, sports cards, stamps, etc) <input type="checkbox"/> As an adult, I think I would like to get away from the city and enjoy nature <input type="checkbox"/> If I have to memorize something, I tend to organize it into categories <input type="checkbox"/> I enjoy learning the names of living things in our environment, such as flowers and trees <input type="checkbox"/> In an argument I tend to compare my opponent to someone or something I have read or heard about and react accordingly <input type="checkbox"/> If something breaks down, I look around me to try and see what I can find to fix the problem <input type="checkbox"/> For a group presentation I prefer to organize and classify the information into categories so it makes sense

TOTAL SCORE	
_____ Verbal/Linguistic	_____ Musical/Rhythmic
_____ Logical/Mathematical	_____ Interpersonal
_____ Visual/Spatial	_____ Intrapersonal
_____ Bodily/Kinesthetic	_____ Naturalist

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