Correlation between Multiple Intelligences and English Language Teaching Strategies

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Abstract

The current study aimed to examine the correlation between Common Multiple Intelligences (CMIs) and preferred English Language Teaching Strategies (PELTS) of English Language Teachers working in public sector schools of Southern Punjab. A sample of 100 female and 100 male English language teachers was selected using a convenient sampling technique to investigate the correlation between the two variables of the current study as well as to assess gender differences on PELTS and CMIs among English language teachers of public schools of Southern Punjab. Two questionnaires were developed by adapting Armstrong's Multiple Intelligences Inventory (MII) (1994) and Strategy Inventory of Language Learning (SILL) by Oxford (1990). Data obtained from the questionnaires were analyzed utilizing descriptive statistical techniques, independent sample t-test, and Spearman's rank correlation coefficient (r_s) with SPSS (V-20). A weak correlation $r_s = 0.240$ (significant at $P<0.01$ level) was found between PELTS (i.e. Memory Strategies) and CMIs (i.e. Verbal-Linguistic Intelligences) among English language teachers. These findings imply that the language teachers do not take into account their multiple intelligences (MIs) while designing or selecting English language teaching strategies (TS). It is suggested that the teachers must be aware of their intelligence strengths to be better able to select good TS to help the young minds in achieving their learning goals. The awareness of personal MIs strengths and learning styles is also commended for learners. The study attempts to provide a framework for English language teachers to improve their teaching through adopting a more practical approach of utilizing their MIs in the selection and development of TS. The findings can be helpful for academicians, course designers, and researchers in designing lessons, materials, and teaching-learning strategies and conducting further research for the professional and academic development of both teachers and learners.

Keywords: English as Second Language, English Language Teaching, Multiple Intelligences, Teachers' Multiple Intelligences, Teaching Strategies

Introduction

English has acquired prestige and status of lingua franca across the world. As a result, an ever-increasing number of people are interested in learning English as their second language (ESL) or foreign language (FL). People not only want to learn English to sail through their examinations, but they want to attain native-like proficiency in English. To cope with the ever-increasing requirements of the learners, ELTs must adopt or design different English language teaching strategies which should be up to the mark with the demands of subject matter and the needs of the learners by exploiting the latest technologies and educational frameworks available (Viesca, Joseph, & Commins, 2019).

English language teachers' individual differences, which range from specific abilities to general styles of teaching, as well as their personal traits and choices in teaching, and idiosyncrasies play a significant role in influential teaching (Lipka & Brinthaupt, 1999). Intelligence is one of the most important individual differences. Teachers' beliefs about intelligence influence many of their instructional decisions and practices (Gómez-López, 2005).

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Multiple Intelligences:

Intelligence, as suggested by Howard Gardner (1983), is not a single general ability rather each human being has different modalities or intelligence profiles that make him/her "differently smart" from others. Gardner has identified eight types of such modalities/intelligence, which make every learner and teacher "differently smart" in the process of learning and teaching (Armstrong, 1994, 2009; Gardner, 1983). Multiple Intelligences theory guides the ELTs in designing teaching activities and strategies which increase the chances of success for ESL learners and the professional growth of ELTs. Baaqeel (2020) asserts that the learning of L2 or FL can be made pleasurable for the learners if the teacher designs classroom activities keeping in mind their individual differences, learning styles, and learning needs.
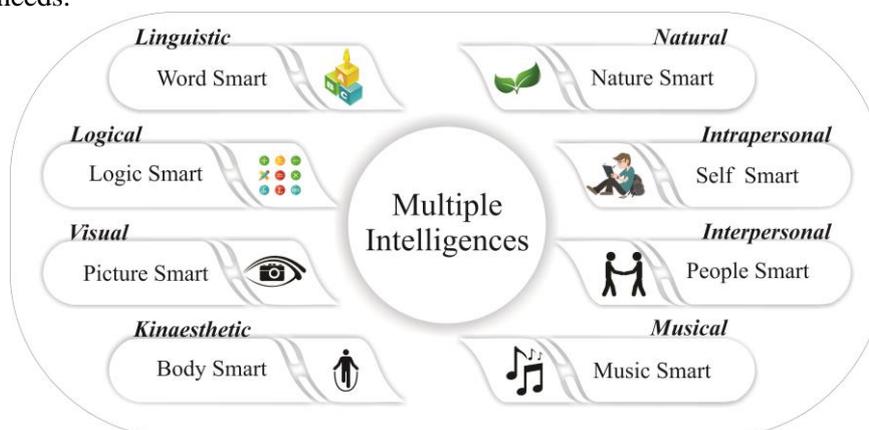

Figure 1: Gardner's (1983) Multiple Intelligences

1.   Verbal-Linguistic Intelligence:

Hali (2017) asserts that people with high verbal-linguistic intelligence demonstrate proficiency in using their vocabulary and language knowledge by participating in activities such as reading, writing, telling stories, and memorizing language-related items. Some activities used by the language teachers for enhancing learners' participation, motivation, and learning pace in the second language (L2) are completing crossword puzzles, and scrabble. These activities help every L2 learner but are particularly helpful for verbal-linguistically smart learners. They enjoy taking part in creative writing competitions, read-aloud activities, and scriptwriting, etc.

2.   Logical-mathematical intelligence:

People who have this profile of intelligence as their strongest ability are good at logical reasoning, comprehending numbers, and critical thinking (Khodadady & Dastgahian, 2013; Šafranj, 2016). This group of L2 learners can be exposed to activities such as reporting and analyzing surveys, explaining charts and graphs, word order activities, categorizing language items according to different criteria, problem-solving, and critical thinking activities.

3.   Visual-spatial intelligence:

People with this bio-psychological potential can remember images, directions and often enjoy reading, understanding, and memorizing maps and they are aware of their surroundings(Bühner, Kröner, & Ziegler, 2008; Shore, 2002). Silverman (2002) suggests projects and activities for these learners that can help in developing and upgrading their language skills. These projects include making mind maps, designing info-graphs and smart art, creating slide shows, and video recording/voice-over activities.

4.   Musical intelligence:

The core of this intelligence is sensitivity to sounds, rhythms, tones, and music. English language teachers can ask such students to mimic singers, to write lyrics, finding rhyming words, learning about music and musical instruments in the target language (TL), and learning about TL's sound elements (e.g. pitch, loudness, tone, and timbre) folk music and poetic traditions, etc.(Fonseca-Mora, Toscano-Fuentes, & Wermke, 2011; Wu & McMahon, 2014).

5.   Bodily-kinesthetic intelligence:

According to MIs theory, these people have a sense of timing, learning with physical activities such as doing tasks, exploring, and discovering nature surrounding them. English language teachers can make groups of such students and assign them different tasks and games that involve

body movement, field trips, scavenger hunt, etc. and then giving a detailed account of the activities done by students in front of the class (Akbari & Hosseini, 2008; Schewe, 2002).

6.   Interpersonal intelligence:

Individuals with interpersonal skills are socially intelligent. They are sensitive to others' moods, feelings and utilize this sensitivity to coordinate and cooperate with others. Paired activities, written communication such as pen-pals, interactive video games, and peer teaching activities can polish the linguistic and communicative skills of such L2 learners (Akbari & Hosseini, 2008; Behjat, 2012; Campbell, Campbell, & Dickinson, 2004).

7.   Intrapersonal Intelligence:

These people are highly self-conscious, introspective, and self-reflective. They know their strengths and weaknesses and make use of their knowledge for better decision making as they are aware of their behaviors and the consequences of their actions and behaviors (González-Treviño, Núñez-Rocha, Valencia-Hernández, & Arrona-Palacios, 2020). Hasnidar, Sulihin, and Elihami (2020) assert that these learners know how to motivate themselves for learning tasks and how to maintain emotional balance which ultimately leads to success in the L2 learning process. Essay writing, autobiographies, journals, diary, research activities, and exploring personal interests can help such learners build vocabulary and language experiences (Behjat, 2012; Campbell et al., 2004).

8.   Naturalistic Intelligence:

Such people are highly eco-friendly and keen on the natural environment. They enjoy spending time learning about flora and fauna (Razmjoo, 2008). The language teachers can adapt their teaching for such people through activities such as photo essays, nature walks, investigating natural phenomena, and recognizing things in nature (Mauladin, 2013).

Teaching strategies:

ELTs adopt various effective TS in their classrooms to enhance their teaching, to cope with learners' needs, and to meet the instructional requirements (Coyne, Kameenui, & Carnine, 2010). These strategies also help the teachers to keep the learners motivated by providing them the desired results of the learning process, thus TS proves to have instrumental significance for the learners and teachers (Munro, 2021).

Rebecca Oxford (1990) introduced one of the best strategy taxonomies of English learning/teaching. It classifies English learning/teaching strategies into two groups. One group being direct language learning/teaching strategies and the other set is called indirect strategies. These strategies facilitate language learning/teaching indirectly (Paredes, 2010).
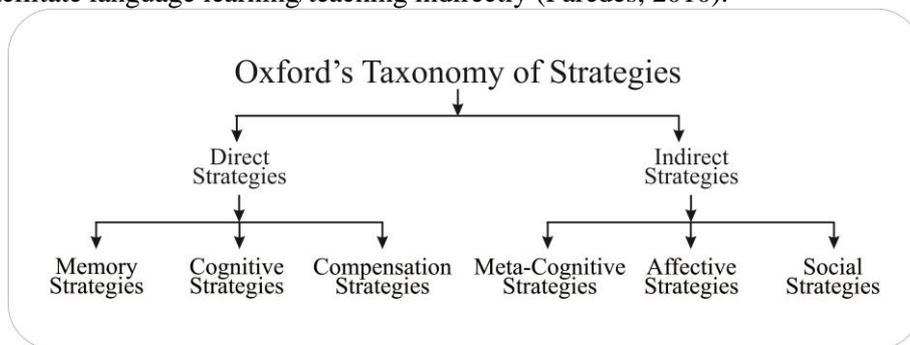

Figure 2: Oxford's (1990) Teaching/Learning Strategies

Direct Strategies:

1.   **Memory strategies:** These strategies work by selecting, organizing, retaining, and using the information about the language (Lee & Oxford, 2008). ELT teachers can help their learners by linking previously studied materials with new things, by using learning aids such as flashcards, images, sounds, and other authentic materials, and by repeating and reviewing the lessons often.

2.   **Cognitive strategies:** The crux of the strategies of this type lies in learning by understanding. Cognitive strategies involve practicing, reasoning, and analyzing L2. ELTs can involve the learners in activities such as watching cartoons and TV shows, writing letters, short notes and stories, dialogues, group activities, drill practices, using dictionary and thesaurus, discussions, and debates (Cohen & Macaro, 2007; Takač, 2008).

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3.   **Compensation strategies:** English language teachers can help their learners overcome their limitations and weaknesses in L2 by using these strategies (Yılmaz, 2010). Activities that help learners in guessing meanings in contexts, speaking as much in English as possible, and giving them linguistic clues are a few examples of activities that teachers can use.

Indirect Strategies

1.   **Meta-cognitive strategies:** These indirect strategies help the learners by suggesting them to center their learning to some focal point, planning and arranging their learning activities, and self-evaluation of what is learned. Knowledge of strategy being used and the outcomes it bears, improve results (Oxford, 1996).

2.   **Affective strategies:** Affective factors can decrease the rate of learning by causing anxiety and stress in learners. These strategies can be used by ELTs to help the learners lower their anxiety by motivating them (Hurd & Lewis, 2008; Milne, 2020). These strategies involve activities such as rewarding the learners when they perform well and asking the learners to share their feelings and apprehensions.

3.   **Social strategies:**
         Cooperation and empathy can make L2 learning a comfortable experience for learners. ELTs can encourage their students to ask questions from others when they don't understand anything, by making groups and pairs of learners practice L2, by asking questions from the learners, and by arranging conversations with native speakers of TL to improve and upgrade the language skills of learners(Hurd & Lewis, 2008; Pawlak, 2019).

Objectives of the Study:

Teachers can help the young minds become proficient and dynamic learners, through their effective instruction if aware of their strengths and intelligence. To explore this the present study aimed to:

1.   Find correlation between commonly found Multiple Intelligences (CMIs) and most preferred English teaching strategies (PELTS).
2.   Identify most commonly found Multiple Intelligences (CMIs) among the English language teachers working in schools of Southern Punjab.
3.   Explore most preferred English teaching strategies (PELTS) used by school English language teachers.
4.   Find the difference between male and female English language teachers in their commonly found Multiple Intelligences profiles and their most preferred English language teaching strategies in southern Punjab.

Research Questions:

Primary Research Question:

Is there any correlation between English language Teachers' Multiple intelligences and their preferred language teaching strategies?

Secondary Research Question:

Which is the most commonly found type of Multiple Intelligences among English language teachers working in schools of Southern Punjab?

What are the most preferred teaching strategies used by school English language teachers?

Do male and female English language teachers differ in their commonly found Multiple Intelligences profile and their most preferred English language teaching strategies in Southern Punjab?

Review of the related literature:

Individuals can be intelligent or smart in diverse ways (Chesebro, 2002, as cited in Abenti, 2020). Curry (2020) opines that individuals who are proficient at a particular task are not necessarily similarly good at other tasks. Human beings exhibit different types of capacities and levels of proficiency to achieve different varieties of success. It is a teacher's job to use a particular strategy or mix of strategies that help each learner in polishing his/her skills. MIs theory is a new kind of scheme of teaching. MIs theory can prove advantageous not only for the learning process of the students but also for the teaching process of the educators (Shearer, 2004). This theory is being taken as a token of success for teaching and learning by many educationists and researchers. Marcarini (2021) points out the keystone factor of the successful teaching-learning process i.e. a flexible learning environment that assures sensitivity to learners' needs, their individual differences, and MIs. Similarly, Jacobs and Renandya (2019) endorse the previous view and recommend the MIs practices for student-centered learning and making the learners comfortable in learning situations.

The wide range of available resources and diverse backgrounds of learners, but the ESL teachers in a challenging situation (Orlich, Harder, Callahan, Trevisan, & Brown, 2012). McKeachie and Svinicki (2013) argue that ELTs do not choose teaching strategies randomly but this selection is very mindful, purposeful, and result-oriented. By adopting different teaching strategies they help their L2 learners in achieving their language learning goals and that is possible through understanding the contexts, nature of language course, and needs of learners (Basalama, Bay, & Abubakar, 2020; Gruba & Hinkelman, 2012; Killen, 2006; Lee & Oxford, 2008; Rubaai, Hashim, & Yunus, 2019).

English enjoys a high status in Pakistan as it is a co-official language with Urdu. English is taught as a compulsory subject in public and private schools in Pakistan from grade 1 and onwards. Recently, many studies have found MIs teaching practices favorable and result producing for different grades (Gul & Rafique, 2017; Temur, 2007) however most of the studies have incorporated the MIs from learners' perspective. Thus, the real motivation behind the present study was to investigate the significance of teachers' MIs in relation to their teaching practices.

Research Methodology:

Population and sampling: The population of the current study was English language teachers, who were teaching in public schools of Southern Punjab. A convenient sampling technique was used to select a sample of 200 teachers, which consisted of 100 male and 100 female teachers.

Nature of study and instrumentation: As a descriptive study, the present research aimed at finding the relationship between choice of English Language Teaching Strategies and Multiple Intelligences of school level English Language Teachers of Southern Punjab. Oxford's Taxonomy of English Language Teaching/Learning Strategies (1990) and Armstrong's MIs inventory (1994) were adapted into two questionnaires to collect data from sampled population. The questionnaire on teaching strategies consisted of 26 items and the respondents were to choose from a 5-point Likert scale from 1-5, where 1 stood for 'Never or almost never for me' and 5 meant 'Always or almost always for me'. The other questionnaire contained 24 items related to different types of MIs and the responders were to specify their level of agreement, from 1 that was for Strongly disagree to 5 for strongly agree, to the given statements. The sample of the present study was reached out for data collection through print as well as online mediums.

Data analysis: Statistical analyses, including descriptive statistical techniques to find out means and standard deviations of CMIs and PELTS, independent sample t-test to observe the gender differences of CMIs and PELTS and Spearman's rank correlation coefficient (r_s) test at a significance level of $p<0.05$ was conducted to find a correlation between CMIs and PELTS of English language teachers of Southern Punjab. SPSS (V-20) was used for data analysis.

Results:

Table 1: Descriptive Statistics of Multiple Intelligences

Multiple Intelligences	Mean	SD
Verbal-Linguistic Intelligence	10.99	2.157
Logical-mathematical Intelligence	10.33	2.513
Visual-spatial Intelligence	10.21	2.692
Bodily-kinesthetic Intelligence	8.78	2.065
Musical Intelligence	9.14	2.317
Interpersonal Intelligence	10.56	2.285
Intrapersonal Intelligence	10.56	2.410
Naturalistic Intelligence	9.55	2.690

The analyses of data collected from 200 participants (100 male and 100 female) suggest that the English teachers of this region most commonly possess Verbal-Linguistic Intelligence as their strength (10.99 ± 2.157) and the least found type of intelligence is Bodily-Kinesthetic intelligence (8.78 ± 2.065).

Table 2: Descriptive Statistics of Teaching Strategies

Teaching Strategies	Mean	SD
Memory Strategies	17.49	3.36
Cognitive Strategies	17.34	3.32
Compensation Strategies	14.04	2.86
Meta-cognitive Strategies	14.74	2.85
Affective Strategies	14.80	2.86
Social Strategies	15.14	2.93

As can be seen in table 2, memory strategies are the most preferred English teaching strategies by ELTs (17.49 ±3.36), while the least preferred type of strategies is compensation strategies (14.04 ± 2.86).

Table 3: Independent Sample t-test for mean score difference in Multiple Intelligences between male and female ELTs

Intelligence	Gender	N	Mean	Std. Deviation	T	Df	p
Verbal-Linguistic Intelligence	F	100	11.43	1.805	2.940	198	0.002
	M	100	10.55	2.388			
Logical-mathematical intelligence	F	100	10.93	2.483	3.438	197.825	0.600
	M	100	9.74	2.410			
Visual-spatial intelligence	F	100	11.13	2.669	5.101	195.760	0.700
	M	100	9.30	2.397			
Bodily-kinesthetic intelligence	F	100	8.81	2.159	0.239	196.500	0.298
	M	100	8.74	1.978			
Musical intelligence	F	100	9.32	2.482	1.099	193.713	0.081
	M	100	8.96	2.136			
Interpersonal intelligence	F	100	10.84	2.526	1.773	187.696	.057
	M	100	10.27	1.989			
Intrapersonal intelligence	F	100	11.01	2.560	2.713	192.742	0.175
	M	100	10.10	2.167			
Naturalistic intelligence	F	100	9.45	2.893	-0.525	193.469	0.062
	M	100	9.65	2.480			

Significant at the 0.05 level

T value for Verbal-Linguistic Intelligence (2.940) is statistically significant at p<0.05, which means that Verbal-Linguistic Intelligence is more commonly found among female teachers (M= 11.43, SD =1.805) than male teachers (M= 10.55, SD= 2.388).

While t value for Logical-mathematical intelligence (3.438) was not statistically significant at p<0.05 thus there were no differences among Female teachers (M=10.93, SD=2.483) and male teachers (M= 9.74, SD=2.410) concerning Logical-mathematical intelligence. Similarly, the t values of all other types of intelligence are not statistically significant hence it can be concluded that there is no difference between male and female teachers of southern Punjab in terms of CMIs.

Table 4: Independent Sample t-test for mean score difference of preferred Teaching Strategies between male and female ELTs

Strategies	Gender	N	Mean	Std. Deviation	T	Df	p
Memory Strategies	Female	100	18.22	2.820	3.139	185.025	0.002
	Male	100	16.76	3.699			
Cognitive Strategies	Female	100	18.28	2.625	4.125	178.623	0.001
	Male	100	16.41	3.696			
Compensation Strategies	Female	100	14.28	2.818	1.189	198	0.728
	Male	100	13.80	2.892			
Metacognitive Strategies	Female	100	15.35	2.897	3.089	198	0.517
	Male	100	14.13	2.684			
Affective Strategies	Female	100	15.37	2.838	2.865	198	0.331
	Male	100	14.23	2.788			
Social Strategies	Female	100	15.77	2.677	3.110	198	0.143
	Male	100	14.51	3.040			

Significant at the 0.05 level

Table 4 shows that t values of memory strategies (3.139) and cognitive strategies (4.125) are statistically significant at p<0.05 which means that female English language teachers mostly prefer memory and cognitive strategies more than male ELTs of southern Punjab. While t values for other strategies are not statistically significant at p<0.05 hence proven that there is no difference between male and female English language teachers in their preference regarding these strategies.

The main objective of the present study was to find out whether there was a correlation between English language teachers' CMIs and their PELTS in Southern Punjab. Spearman's rank

correlation coefficient (r_s) was put into use to measure the strength and direction of correlation between CMIs and PELTS.

Table 5: Spearman's correlation results of MIs and PELTS

		Verbal	Logical	Visual	Bodily	Musical	Interpersonal	Intrapersonal	Naturalistic
Memory Strategies	Correlation Coefficient	.240**	.165*	-.030	.075	.016	-.061	.095	.144*
	Sig. (2-tailed)	.001	.019	.675	.292	.819	.387	.179	.042
Cognitive Strategies	Correlation Coefficient	.180*	.144*	.158*	.102	-.042	.082	.118	.033
	Sig. (2-tailed)	.011	.042	.025	.149	.553	.246	.097	.647
Compensation Strategies	Correlation Coefficient	.144*	.153*	.089	.152*	.119	.048	.143*	.203**
	Sig. (2-tailed)	.042	.030	.211	.031	.092	.499	.043	.004
Metacognitive Strategies	Correlation Coefficient	.240**	.204**	.111	.132	.027	.108	.180*	.112
	Sig. (2-tailed)	.001	.004	.118	.063	.700	.128	.011	.115
Affective Strategies	Correlation Coefficient	.132	.163*	.113	.034	.043	.056	.198**	.123
	Sig. (2-tailed)	.062	.021	.111	.633	.542	.427	.005	.082
Social Strategies	Correlation Coefficient	.247**	.264**	.140*	.150*	.011	.069	.166*	.162*
	Sig. (2-tailed)	.000	.000	.049	.034	.880	.331	.019	.022

(Spearman's r_s)

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Spearman's rank correlation coefficient (r_s) analysis resulted in a weak correlation between the two variables of the study i.e. CMIs and PELTS among ELTs of Southern Punjab. For instance, it can be seen in table 5 that the correlation coefficient between verbal-linguistic Intelligence and memory strategies (r_s =0.240**) suggests a weak, positive correlation that is statically significant as the p-value is less than 0.01.

Analysis and Discussion:

Table 1 presents a descriptive analysis of the data collected on CMIs, from 200 participants of the present study. It illustrates that the most commonly found type of MIs among the ELTs of southern Punjab is Verbal-Linguistic intelligence (mean=10.99) and the least found type is Bodily-Kinesthetic intelligence (mean=8.78).

Table 2 illustrates the most preferred teaching strategies among ELTs of this region are memory strategies (mean=17.49) and the least preferred strategies are compensation strategies (mean=14.04).

The present study also aimed to find the difference in CMIs and PELTS of male and female ELTs of southern Punjab. Results of the Independent Sample T-test (Table 3) indicate that there is no difference between male and female ELTs of southern Punjab concerning their profiles of CMIs, as Verbal-Linguistic intelligence is most commonly found in both males and females ELTs (t=2.940).

Table 4 shows that both male and female ELTs use memory strategies for teaching the English language. Table 4 further indicates that cognitive strategies are also significant at p<0.05, which means that teachers prefer memory and cognitive strategies more than other teaching strategies. But memory strategies are the top priority of the teachers in this region. The main objective of the present study was to find the correlation between the two variables of the study i.e. multiple intelligences and teaching strategies. It aimed to find the strength and direction of the relationship between the two

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variables. For the said purpose two questionnaires were administered to collect data from 200 (100 male and 100 female) ELTs working in schools of southern Punjab. The data collected through questionnaires were analyzed statistically to find a correlation between the items of both variables. Spearman's rank correlation coefficient (r_s) yielded a weak correlation between the two variables of the study i.e. CMIs and the PELTS of ELTs of Southern Punjab. It means that teachers while selecting English language teaching strategies, do not consider their strongest MIs rather they use traditional memory-based strategies to teach English.

Conclusion

The main objective of the present study was to find the correlation between CMIs and PELTS of ELTs of southern Punjab. The researchers of the present study were interested in knowing the extent to which teachers made use of their multiple intelligences in adopting or designing English language teaching strategies in southern Punjab. The findings of the present study suggested that the most commonly found type of intelligence of ELTs was Verbal-Linguistic Intelligence (mean=10.99). People with this type of intelligence strength can understand and learn a new concept through problem-solving and abstract reasoning. Such people enjoy reading, writing, and using language persuasively. Thus, according to the multiple intelligences theory of Gardner (1983), a teacher with this type of intelligence profile should be able to teach the English language through activities that involve accessing language persuasively and analytically instead of relying on traditional methods of teaching. But the results of the present study show that the teachers of southern Punjab preferred and used memory strategies (mean=17.49) most of the time in their classes for teaching English. The results of the present study suggested that the ELTs of Southern Punjab did not utilize their strongest multiple intelligences i.e. verbal-linguistic intelligence while planning or adopting their teaching strategies. English language teachers preferred memory strategy or rote memorization in schools of southern Punjab to teach the English language to the learners.

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