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## Multiple Intelligences and Language Learning Strategies: Mental Choices and Preferred Strategies in Learning English as Second Language

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### Abstract

*Exploring mental choices and preferred language learning strategies of ESL learners can help language teachers to recognize their strengths and weaknesses. After knowing the preferences of the learners in learning English, Language teachers can reconsider or re-strategize their techniques, methods, and approaches for better proficiency and promising results. The current study aims at exploring the mental choices and preferred strategies of the learners in learning English as a second language in Pakistan. Based on convenient sampling, a sample of four hundred participants was selected from all four provinces of the country. The learners were surveyed through questionnaires. In response to the questionnaire on multiple intelligences, the respondents showed their mental inclinations towards musical, picture smart, and people smart intelligence. The researchers, keeping mental choices to multiple intelligences in mind, concluded that the learners could learn best if taught in rhyme, with pictorial demonstrations, and in group activities. The respondents, while responding to the Strategy Inventory of Language Learning (SILL), showed their preferences for Mnemonic (Memory), compensation, and effective strategies. The study rounded off with the suggestion that the teachers should give attention to every individual learner in the classroom.*

**Key Words:** Cognition, Intelligence, Multiple Intelligences, Language Learning Strategies, English as Second Language Learning

### Introduction

Cognition refers to the mental process of acquiring new information. It contributes to the formation of understanding, the acquisition of relevant knowledge, and building up an information base. It covers many intellectual functions, manifestations, and procedures, such as perception, attention, memory work, judgments, assessments, reasoning, calculation, problem-solving, decision making, comprehension, and language production. Cognitive processes and procedures are adapted and analyzed in different environments, especially in the fields of Linguistics, Musicology, Anesthesia, Neuroscience,

Psychiatry, Psychology, Education, Philosophy, Anthropology, Biology, Systems, Logic and Machine applications.

Ancient philosophers accepted "cognition" and "existence" as two basic concepts and philosophical designs that opened the horizons of theory and meditation. It has been accepted as an essential element of the soul. Aristotle distinguished cognition as a movement of a person's higher emotions and the sensory powers of the mind. According to Aristotle, the theory of cognition is the subject of a special science-logic, marked by the production of philosophies, decrees, and conclusions. Cognitive

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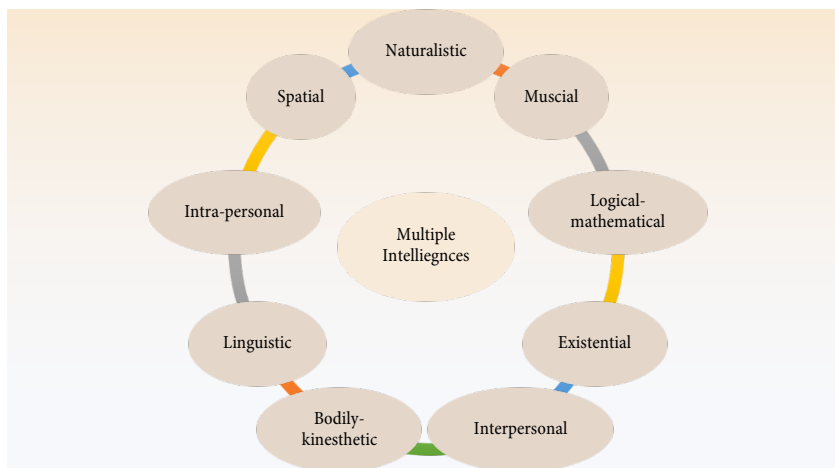
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psychology became so dominant over the last fifty years that it would come as a surprise to many psychologists that they could think without cognition. This concept is quite significant and appropriate for studies being conducted on multiple intelligences and preferred ways of learning English as a second language. Studies on psychotherapy work also link cognition with a functional-analytical approach that takes a non-informative perspective on language and thinking. This approach describes the relationship between the environment and behavior to predict and influence behavior ([Chiesa, 1994](#); [Hayes & Brownstein, 1986](#)).

[Gardner \(1993\)](#), while linking cognition with mental information, reveals/introduces a new level of explanation that cognitive psychologists can operate on. To fully understand the importance of this idea, it is necessary to understand that information has a non-physical meaning. Perception is an inner intellectual activity based on innate ideas—Mentalism. According to Gardner (2008), adequate speech and meaningful activity were perceived as expressive symbols of internal intellectual activity. Contrary to rationalism, cognition was understood as

a copied feeling in empiricism. Perception on cognition, from Descartes to Kant, was understood as a logical process within man. In a new view, cognition has an individualized basis. It is slightly larger than a simple operation with abstract symbols. Cognitive science assumes that we think mainly in terms of cultural and historically loaded forms. Our mental powers recognize the outside world, build models, and make predictions. These cognitive powers model our thoughts by combining information from the senses with our a priori expectations. [Sweller \(2011\)](#) argues, "We must never overlook the architecture of human cognition when compiling instruction. It is not an optional addition" (p. 74). [Gardner \(1983\)](#) studied cognition to describe different areas of cognition. The Multiple Intelligences theory of Gardner describes that there are various dimensions and aspects of intelligence which are divided into various types of separate intelligence. He further asserts that intelligence is displayed as a single aspect of faculty due to the fact that these many frames or mental constructs operate in an organized manner. So, there are many types of human intelligence. Gardner's described nine different types of intelligence.



**Figure 1:** Gardner's Multiple Intelligences

This theory claims that different learners have different intelligence. They have strengths and weaknesses in terms of their preferences or intelligence. They can be good at math, but they cannot be better at fine arts or music. Gardner's MI

theory emphasizes that students need to be encouraged to hire the intelligence they prefer or prefer to learn. His theory emphasizes the position of accepting students individually. In addition, he thinks that the instructions' designs and evaluations

should conform to these numerous intellects. By identifying preferred ways, second language teachers can develop students' stronger mental powers to strengthen their weaker ones. Those who are academically weak can find better perspectives and

openings if the instructions properly correspond to the students' multiple intelligences. The figure illustrated describes the method to identify, develop and value multiple intelligences.



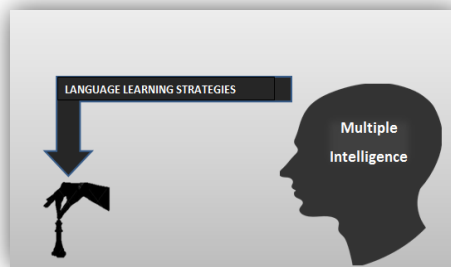
**Figure 2:** Determination Pattern for Dominant Intelligence

The illustration presented above depicts how the dominant intelligence of the learner can be used to achieve better outcomes. In countries like Pakistan, English is taught with poor classroom technology, lack of resources and infrastructure. In such a learning atmosphere, the teacher might be too busy with administrative apprehensions pondering how students view the teaching and learning process. How do they think to attain their learning objectives? How do students understand the introduction to training? What practices and cognitive maneuvers do they consider appropriate for the learning activities ahead? Since it is important to use a teaching method

that can be used correctly, so it is also important to consider the language strategies used by students.

### Multiple Intelligences and Language Learning Strategies

There is a strong connection between human perception and language learning strategies. Human cognitive faculty is a system, and strategies are its product. The chess piece shown in the human hand in the figure below represents strategy, whereas an arrow shows the strategy that arises from individual human cognition.



**Figure 3:** MIs and LLSs

The very word 'multiple' present in the expression 'multiple intelligences' means a wide and varied intelligence. Because the intelligence of the learners is different, naturally, the strategies that are the product of intelligence are also very different and varied in learners. Another reason to assume the relationship between intelligence and learning

strategies is that intelligence is a distinctive innate ability and that learning strategies are the steps, cognizant or unintentional plans, and actions adopted by students. Hence, a strong connection exists between multiple intelligence and learning strategies. For the above purpose, the researcher in this study has tried to highlight both aspects.

## **Purpose of the Study**

Each student has a specific level of knowledge and individual personality traits. Better results can be achieved if language instructors seek out cognitive aspects related to students' multiple intelligences and personal interests, then understand and promote their preferred strategies and superior intelligence. Second-language teachers in Pakistan take these strategies into account, but in some cases, they face or confront the old education system, cultural variability, and lack of required resources in the implementation of these strategies into classroom settings. Consequently, the learners do not perform as they are aspired to. This study was conducted to introduce ESL students and teachers to the concepts of individual differences, multiple intelligences, and language learning strategies to improve their learning outcomes.

## **Literature Review**

[Gardner \(1983\)](#), in his book 'Frames of Mind', introduced the theory of Multiple Intelligences (MI), which describes various forms of human cognitive manifestations, encompassing all in the view of the mind. Gardner's Theory of Multiple Intelligence uses cognitive and developmental psychology, anthropology, and sociology to provide a basis for framing the concept of intelligence. [Gardner \(1983\)](#) defines intelligence as "the ability or capacity of solving problems or creating products that are valued by one or more cultural environments" (p. 81). Gardner considered nine types of intelligence as follows:

Linguistic Intelligence unveils one's sensitivity to written and spoken language and the understanding to use language par excellence to accomplish objectives. It also refers to the ability to learn a new language. Logical/Mathematical Intelligence describes the ability to use and manipulate numbers and languages, as well as the ability to categorize, classify, differentiate, generalize, calculate, and especially test hypotheses. Spatial/Visual Intelligence expresses compassion to shape, color and space. In fact, this type of intelligence involves the capability of the learner to present visual or spatial thoughts graphically. In the case of Musical Intelligence, there is sensitivity to

rhythm, melody, and tone. Body-Kinesthetic intelligence shows sensitivity to the coordination of feelings and thoughts, speed, elasticity, balance, etc. Such intelligence includes the ability to express through the whole body. Intra-personal intelligence refers to the ability to have self-awareness with the ability of one's inner mood, temperaments, intentions, and desires. Naturalist type of intelligence indicates the ability to categorize, differentiate, and use features of the natural and non-natural environment (geologist, botanist, and archaeologist), the ninth of which has recently been the possibility of "emotional intelligence."

[Hopper and Hurry \(2000\)](#) claim that due to these varied learning styles, Gardner's theory was enacted into the world of classroom teaching, and teachers started to adapt teaching in various ways to approach different groups in the classroom. Gardner (1993) asserted that different kinds of intelligence could undertake different changes through experience. In fact, [Gardner \(1993\)](#) noted that there was no relationship between learner's acquisition and IQ level. Also, it is undoubted that learning strategies play a major role in cognitive theory. Also, [Oxford \(1990\)](#) stated that "learning strategies are behaviors and actions that learners use to make language learning more successful, engaging, and entertaining." In other words, learning strategies are steps or procedures that students use to build themselves.

The language learning process is more effective if the strategy adopted by the learner has been effective. [O'Malley and Chamot \(1990\)](#) claim that learning strategies are the complex procedures that individual learners perform while performing different activities and tasks. In fact, both researchers regarded learning strategies as procedural knowledge that could be acquired by the learner. Literature shows that different researchers have divided learning strategies into different categories. Like, [O'Malley et al. \(1985\)](#) and different other researchers have divided language learning strategies into three classes: social-affective, cognitive, and meta-cognitive ones. [Stern \(1992\)](#) has divided it into five interpersonal strategies, including cognitive strategies, communicative-experiential strategies, effective strategies, and management and planning strategies. [Oxford \(1990\)](#) divides it into two classes

comprising of direct and indirect strategies. These are further divided into six classes of compensatory, cognitive, meta-cognitive, effective, memory-related, and social strategies. Research to examine the effects of MI-based techniques and strategies has focused on their impact on language skills in general and/or specific skills in particular. The results showed that the use of MI-based strategies has a positive effect on students' classroom performance ([Tahriri & Yamini, 2012](#)) and their overall success ([Bas & Beyhan, 2017](#); [Haley, 2004](#); [Soleimani et al., 2012](#)), as well as in certain sub-skills ([Anderson, 1998](#); [Condis et al., 2000](#)). [Kazi and Iqbal \(2011\)](#) expound that in most language learning settings, "language learning strategies are rarely considered" (p. 558). The reasons to ignore learners' strategy and intelligence are best answered in research conducted by [Nawab \(2012\)](#). In this study, the researcher has explored the approaches of Pakistani teachers in teaching English. The study concludes that outdated methods overrule and proficiency of the learners is not properly catered upon. There are no opportunities to apply language skills in the classroom. Reasons for such an approach to teaching English; memory-based exam system, overcrowding, teacher workload, lack of resources, and lack of a sustained support system" (p. 696). An English teacher in a 2012 study said, "I was taught this way and I will adopt this path for teaching English" (p. 700). In the past, teachers' resources were inadequate, so they adopted teaching techniques that were traditional and prevalent for decades. In present conditions, it is required to streamline our teaching methods and practices on better psychological and educational notions that are based on educational psychology. In Pakistan, language experts have started realizing and understanding the necessity of advanced teaching practices. [Shahzada et al. \(2014\)](#) conclude that "in Pakistan, many intellectual theories need to be formally incorporated into teaching and learning" and that "lesson planning, teaching and learning activities need to be planned around MI theory." (p.63). [Bighami et al. \(2015\)](#), in exploring theory and practice in language teaching, found close links in multiple intelligences and learning strategies.

[Moussa \(2015\)](#) conducted a study entitled "Language Learning Strategies, Multiple Intelligence, and Self-Assurance: Exploring Relationships." The

results of the study pointed to significant findings on the use of self-assurance and multiple intelligence to predict language learning strategies. The recommendations of the existing research provide creative ideas for the use of a wide range of intelligence in higher education, including a model for the integration of multiple intellects to teach English. [Lee \(2017\)](#) explored the link between multiple intelligence and career interest among engineering students in vocational colleges. According to the study, the majority of students are prone to Existence, Kinesthetic, and Interpersonal Intelligence. [Ansarin and Khatibi \(2018\)](#) conducted a study examining the relationship between Numerous Intelligence and Language Learning Strategies and Gender. The results showed that there is an important link between multiple intelligence variables (MI) and the Strategic Inventory of Language Learning (SILL). The results of these variable tests showed a significant positive difference between MI scores and different skill levels, but there was no significant difference in MI scores between the sexes. [Luo and Huang \(2019\)](#) conducted a study on the use of multiple intelligence, and teachers accepted MI fields. The results showed that ESL teachers used more language, interpersonal and interpersonal teaching strategies. The strength of the links between ESL teachers' use of MI-framed learning strategies in relation to self-perceived MI areas was not weak or significant. [Al-Qatawneh \(2021\)](#) conducted a study to find out how the individual differences and cognitive choices of individual learners are represented in Arabic textbooks adopted as a curriculum by the Jordan School. The results showed that the attitudes reflected in the texts and exercises of the Arabic course book are largely visual/spatial, verbal/linguistic, and interpersonal intelligence.

### Research Questions

This study was intended to explore answers to the following questions.

1. What types of multiple intelligences are preferred by the second language learners in Pakistan?
2. What types of language learning strategies are preferred by second language learners in Pakistan?

## Research Design

The current research is exploratory and quantitative in its nature and form. Two questionnaires as research tools were used; the first one explored students' choice about multiple intelligences. The second questionnaire found out strategy preferences in learning English as a second language. Respondents were asked to complete a Language Learning Strategy questionnaire by selecting one of five options on a given scale (SILL [Oxford, 1990](#)). Similarly, in the MIS questionnaire based on [Mackenzie \(1999\)](#), respondents were asked to

complete the questionnaire, indicating their preferred intelligence.

## Data Analysis

The data collected were tabulated, analyzed, and interpreted by using SPSS-20.0 (Version). The values were entered into the SPSS software, and the percentage, average, frequency, and standard deviation were observed. By observing the data trend, preferred ways, mental choices, and strategies of the learners were further interpreted.

**Table 1.** Demographic Description

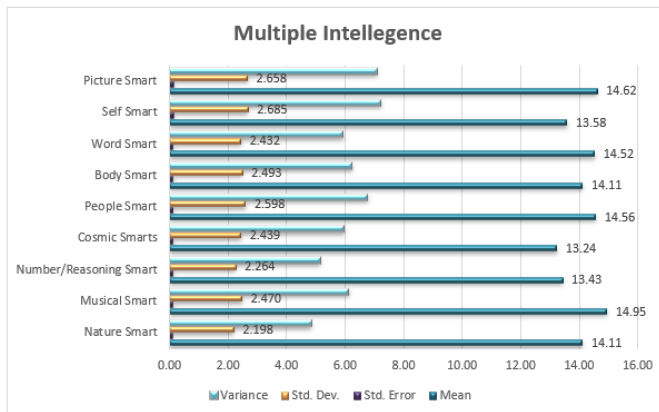
Variables	Percentage
Gender	
Female	32
Male	68
Age	
18-20 years	44
21-22 years	39
23-24 years	16
25-26 years	1
Mother Tongue	
Urdu	8.3
Punjabi	12.5
Saraiki	8.8
Pashto	23.0
Sindhi	23.3
Hindko	4.5
Brahvi	12.0
Hazara Language	2.0
Balochi	3.8
Kohistani	1.8
Marwari	0.3
Faculty	
Arts and Humanities	20.0
Science	19.3
Management	16.5
Engineering	24.8
Education	19.5
Province	
Punjab	25.0
Sindh	25.0
Khyber Pakhtunkhah	25.0
Balochistan	25.0

Table 1 exhibits the gender-wise data spread of respondents. 32% female and 68% male respondents actively participated in this research. In the age group distribution, participants ranging 18-20 years of age were 43.8%, 39.5% respondents were 21-22 years old, 16% respondents were 23-24 years old, and 0.8% were 25-26 years old. Respondents were native speakers, 8.3% Urdu, 12.5% Punjabi 8.8% Saraki, and 23.3% Sindhi, 23.3% Sindhi and 23% Pashto, and 12% respondents. Of the Brahvi speakers, 4.5% were

Hindu, and 2% were Hazara or Hazarval, 1.8% were Kohistani, 3.8% were Balochi, and only 0.3% were Marhviri. Describing representation of respondents to the Faculty of Arts / Humanities or Social Sciences, there are 19.3% to the Faculty of Science, 16.5% to the Faculty of Management, 24.8% to the Faculty of Engineering, and 19.5% to the Faculty of Education. The provincial distribution of respondents was: Punjab 25%, Sindh 25%, Khyber Pakhtunkhwa 25%, and Baluchistan 25%.

**Table 2.** Use of Multiple Intelligences by the Respondents of the Study

Usage of Multiple Intelligences	Mean	Std. Deviation
Picture Smart	14.62	2.658
Self-Smart	13.58	2.685
Word Smart	14.52	2.432
Body Smart	14.11	2.493
People Smart	14.56	2.598
Cosmic Smarts	13.24	2.439
Number/Reasoning Smart	13.43	2.264
Musical Smart	14.95	2.470
Nature Smart	14.11	2.198
Average	14.12	2.470



**Figure 4:** Learners' Usage/preferences of Multiple Intelligences

The most used or most preferred intelligence, "Musical Smart," scored 14.95 points, followed by Picture Smart 14.62 and People Smart 14.56. According to the least used intelligence, Cosmic Smarts averages 13.24, Number / Reasoning Smart averages 13.43, and Self Smart averages 13.58. In naturalist intelligence statements, participants in the study showed a preference of 1.13 with an average

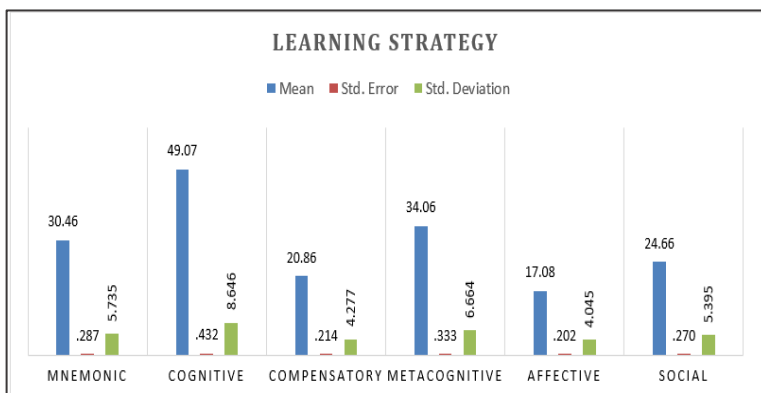
value of 'Environmental issues are important to me, and 'it makes sense for me to hierarchize things' were the least preferred expressions with a mean value of 1.69. The total average natural intelligence is 1412. Examples of expressions of musical intelligence agreed with the phrase "I remember things by rhyming" with an average value of 1.26 at most and the lowest number of respondents, with an average of

1.65, agreed with the phrase 'It's easy for me to switch to a rhythm.' The total average musical intelligence observed in this study is 1496, and among them the most chosen answer is 'I am known for being neat, clean, and tidy, which provides an average of 1.19 in the field of logical and mathematical intelligence. The least preferred phrase is "I get angry easily with rough people," which has an average of 1.52. The total average for intelligence logical and mathematical is 13.44. Also, for existential intelligence, respondents' favorite average of 1.12 'I enjoy discussing questions about life' and the least preferred expression average of 1.51 for 'I enjoy reading philosophers.' The total average for existential intelligence is 1326. Similarly, the phrase "I'm learning to communicate best with others" is the most preferred expression in male intelligence by study participants with an average of 1.28, and the least preferred expression is an average of 1.6 with the phrase "average is important to me." Interpersonal intelligence was there with an average of 14.57. Also, for intelligence 'body kinesthetic', participants agreed with the assertion "inaction can make me more tired than busy" and did not show agreement with the claim "I use gestures and non-

verbal cues when communicating" with a mean of 1.64. The total average for intelligence 'body and kinesthetic' is 1413. Further, for linguistic intelligence, the majority of participants accepted the phrase "I enjoy reading books, magazines, and websites" with an average value of 1.28 and disagreed with the statement "notes help me remember and understand" with an average value of 1.66. The total average of linguistic intelligence is 1452. According to respondents, the phrase "how my behavior affects how I learn" is the one most preferred by those with an average of 1.23. In personal intelligence, and the least preferred is "I learned best when I am emotionally attached." the subject has an average value of 1.45. The total average of 13.59 is there for personal intelligence. Data for Spatial intelligence exhibits majority preference for the phrase "remodeling and remodeling a room is fun for me," having an average value of 1.16, and the phrase "I enjoy all kinds of entertainment media" is marked as the least preferred by the respondents showing an average value of 1.65. Data represented a total average of 14.63 for spatial intelligence.

**Table 3:** Usage/Preference for Language Learning Strategies

S. No	Language Learning Strategies	Mean	Std. Deviation
1	Mnemonic	30.46	.287
2	Cognitive	49.07	.432
3	Compensatory	20.85	.214
4	Metacognitive	34.06	.333
5	Affective	17.08	.202
6	Social	24.66	.270
	Average	29.4	0.289



**Figure 4:** Usage of Language Learning Strategies by the Respondents



The most preferred language Learning Strategies are Mnemonic strategies that reveal an average of 49.07 and LLS 'Compensatory' is with an average of 34.06. Data reveals 'Affective strategy' as the least preferred one that exhibits an average of 17.08, followed by an average of 20.86 for the 'Compensatory' language learning strategy. Among the mnemonic learning strategy statements, the respondents' majority disagree with the phrase 'I use flashcards to remember new SL words.' The average value for this expression is 2.79, and for the expression 'I use a new SL word to remember them' was accepted' with a 3.86 average value. For Mnemonic Strategy, data revealed an overall average of 34.47. Data suggests that among the expressions of cognitive strategy, maximum respondents disagree with the phrase 'I try not to translate from word to word', which revealed an average of 3.14 for this phrase, whereas 'I try to speak like the local SL speakers' revealed an average of 3.58. Cognitive Strategy revealed an overall average of 35.05. Among the Com language learning strategies, the majority of respondents seem to disagree with the phrase "I am planning my schedule so I will have enough time to study SL was with an average value of 3.41," and respondents agreed with the phrase "I pay attention when someone speaks SL." The statement showed an average value of 4.07. Similarly, the language learning strategy 'Metacognitive' revealed an average value of 37.84. Analysis of the data revealed an overall average of 3.415 for the 'Affective' learning strategy. 'I'm talking to 'I don't agree with the claim, 'if I don't understand something in SL, I ask the other person to slow down or say it again' was with an average of 3.66. Further, the learning strategy 'Social' revealed an average of 3.5.

## Findings and Discussion

The findings of the study are based upon the responses of the L2 learners to the questionnaires. These questionnaires were used to seek language learners' individual preferences about the language learning strategies and multiple intelligences. Research question wise discussion on the findings of the study is made as under:

### Data Results Related to the First Research Question

It revealed that the most dominant intellectual/mental choices for the respondent are 'I

like to discuss life questions,' 'environmental issues are important to me,' 'remodeling and re-decorating a room is fun for me', 'I enjoy working and I am known for being neat and tidy. It was found that existential, natural, spatial, and logical-mathematical cognitive capacities were the most preferred choices of the respondents. The possible cause for showing preference towards the existential type of intelligence may be that students at this stage of life are more inclined to think about life and life's endeavors. They are interested in concepts and insights related to professional development and success in life.

It can be argued that they preferred natural intelligence and that the learners belonged to the rural communities of Punjab and Sindh and verdant areas of KPK and Baluchistan. Also, the advantages of spatial and logical-mathematical intelligence revealed the fact that the sample of respondents was good at critical thinking, and they also preferred to learn at their best through visual description and demonstrations. Naturalist and spatial types of intelligence support each other internally. Regarding students learning levels, Gögebakan (2003) expressed strong preferences about logical-mathematical intelligence and linguistic intelligence at a first-grade level. At the next level of preferences, there are body kinesthetic intelligence and spatial intelligence. Although, students in third grade mentioned spatial, interpersonal, logical-mathematical, and linguistic intelligence as their preferred intelligence. However, learners in fifth- and eighth grades showed their preferences for bodily-kinesthetic, interpersonal, musical, and spatial intelligence. Also, Dunn (1991) suggested providing a multifaceted perspective for learning a second language and suggested including activities in which students prefer to participate in the process of language learning. He further recommended visual activities and tasks such as watching videos, taking notes, manipulating a model, role-playing, taking a field trip, conducting an experiment, creating something with new information, and sharing what he has created with others.

### Data Results Related to the Second Research Question

It revealed that the most favored conventional strategies that are preferred by the learners are; 'I use new SL words to remember using a sentence,' 'I see

my SL mistakes, and I use this information to help me do a better job,' 'I try to be a better learner of SL,' 'I watch TV programs in SL, 'I look for people to talk in SL' and I have clear goals to improve SL skills. Statistics revealed that the most preferred strategies for SL learners were Mnemonic and Compensator that showed an average of 49.07 and 34.06, respectively. The strongest choices of learners for memory or mnemonic strategy depict the actual problem with memorizing text materials in Pakistani academia at large. Since performance, proficiency, and academic competence are assessed on paper, only those learners are rated the best who remember best. Thus, it becomes a test of memory, not ability or proficiency. The second most preferred group of strategies is related to compensation strategies. [Salahshour et al. \(2013\)](#) reported compensation strategies as the most commonly used in the study. These results are consistent with this existing research, but the results or findings of this study are

inconsistent with those of [Hong-Nam and Leavell \(2006\)](#), [Liu \(2004\)](#), and [Oh \(1992\)](#).

### **Conclusion**

Students' intelligence and their chosen learning plans are key features to make the process of language learning more efficient and emphatic. Learners learning their second language should be informed about their preferred ways, mental choices, and individual intelligence, and the learning strategies students are most engaged in while learning L2 from the Pakistani perspective. For better outcomes, L2 learners need to figure out their strengths in respective intelligence and learning strategies, afterward explore their weaknesses or least favored mental choices. This practice of instructional design and evaluation would certainly assist them in achieving successful learning objectives. L2 educators or teachers should consider the individual differences of students' mental inclinations while devising a language curriculum.

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