



# The Practice of Gardner’s Multiple Intelligences Theory in the Classroom

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## **The Practice of Gardner's Multiple Intelligences Theory in the Classroom**

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### **ABSTRACT**

The study attempted to determine the practices of Gardner's Multiple Intelligences Theory in the classroom. It also determined the level of awareness of the senior high school teachers and students of Gardner's Multiple Intelligences Theory, the extent of practice and the relationship between the perceived extent of practice of Gardner's Multiple Intelligence Theory and their profile and level of awareness. The descriptive-correlational method of research was employed in the study and Kendall Tau b was utilized to determine the relationship for interpretation and implication of such findings. Result shows that the senior-high school teachers were adequately familiar with Gardner's Multiple Intelligences (GMI) theories and the teachers themselves and their students generally agreed that all these eight (8) multiple intelligences were applied and frequently practiced in the classroom. The findings of the study also indicated that there were significant associations between the age, gender, specialization and highest educational attainment and the extent of some practices of the GMI theories in the classroom. It can be noted that as the senior high school teachers grow in age, the less likely they will use visual aids in class such as maps, charts, and diagrams and give students the opportunity to use drama, dance, or physical activity as a part of their learning process. LGBT teachers will tend to become more effective in reading or lecturing to the class and in encouraging students to peer tutor or help each other in class. Language education specialists will have a higher inclination to encourage students to employ their verbal skills to communicate, solve problems, and express inner feelings. Moreover, the higher the educational attainment of the teachers, the less likely they will use visual presentations during class (e.g., write on chalkboard, use overhead projector) and encourage students to visually represent the concepts being taught/ discussed. It is recommended that the senior high school classroom teachers are enjoined to continuously apply MI theories in their teaching practices. This means self-development through reading, studying, and learning more about not only Gardner's theory but other theory-based practices. In addition, teachers at the high school level need to have more resources in their practice of multiple intelligence theories put in place in order to support their abilities to properly educate and motivate students to sustain their education.

**Keywords:** GMI, Kendall Tau, Multiple Intelligence, LGBT

### **INTRODUCTION**

Harvard professor Howard Gardner has identified seven different types of intelligence. Recent cognitive research has given rise to this idea, which details the extent to which pupils possess diverse kinds of brains and learn, remember, perform, and understand in different ways (Gardner 1991).

This theory states that we all have the capacity to know the world through language, logical-mathematical analysis, spatial representation, musical thinking, the use of the body to solve problems or create things, an understanding of other people, and an understanding of ourselves. Where individuals differ is in the strength of these intelligences - the so-called profile of intelligences - and in the ways in which such intelligences are invoked and combined to carry out daily activities (Gardner 1991).

Indeed, as it stands, our educational system is heavily biased toward linguistic modes of instruction and assessment and, to a somewhat lesser extent, toward logical-quantitative modes as well. Gardner claims that these differences "challenge an educational system that assumes that everyone can learn the same materials in the same way and that a uniform, universal measure suffices to test student learning (Gardner 1991).

The learning styles are as follows:

#### **Visual-spatial**

Think in terms of actual space, just like sailors and architects do. very conscious of their surroundings. They enjoy daydreaming, doing crossword puzzles, and drawing. They can be instructed via verbal, written, and

visual images. Models, graphics, charts, photographs, drawings, video, videoconferencing, television, multimedia, and texts containing pictures, charts, and graphs are examples of tools.

### **Bodily-kinesthetic**

They have a high sense of body awareness and can use their bodies effectively, like a dancer or a surgeon. They enjoy motion, creating, and touching. They are taught by physical exercise, hands-on learning, acting out, and role playing. They are excellent body language communicators. Equipment and actual objects are examples of tools.

### **Musical**

Demonstrate awareness of rhythm and tone. They enjoy listening to music, but they are very perceptive to sounds around them. They might learn more effectively if music is playing. Teaching methods include speaking rhythmically, tapping out time, and converting teachings into songs. Instruments, music, radio, stereo, CD-ROM, and multimedia are examples of tools.

### **Interpersonal**

Comprehension and social interaction. These pupils communicate with one another to learn. They are sociable, compassionate, and street smart. They can be taught through discussions, seminars, and group activities. The instructor's time and attention, the telephone, audio conferencing, writing assignments, computer conferencing, and email are all examples of tools.

### **Intrapersonal**

Understanding one's own interests, goals. These learners tend to shy away from others. They're in tune with their inner feelings; they have wisdom, intuition and motivation, as well as a strong will, confidence and opinions. They can be taught through independent study and introspection. Tools include books, creative materials, diaries, privacy and time. They are the most independent of the learners.

### **Linguistic**

Using language well. These students frequently think in words and have highly developed auditory skills. They enjoy reading, word games, making up poetry or stories, and writing. By encouraging children to speak and see words and read books together, they may be taught. Computers, video games, multimedia, books, tape recorders, and lectures are examples of tools.

### **Logical**

Logic and computation are mathematical. Think mentally and abstractly, and have the capacity to recognize and investigate patterns and correlations. They enjoy experimenting, working out problems, and pondering the universe. They can be taught via puzzles, mysteries, and logic games. Before they can cope with details, they must study and develop concepts.

Despite the fact that learners' cognitive abilities may vary greatly, Sulaiman, et.al (2011) argued in favor of Gardner's MI theory and asserted that all learners have a variety of strengths and shortcomings. The speed at which students pick up difficult educational information varies. Some students struggle to grasp fundamental ideas and skills, whilst others find them less difficult and challenging. Teachers can support students in developing their metacognitive skills so that they are motivated to study by raising learners' knowledge of the many learning styles they use as well as how they prefer to learn. They contend that students can achieve more when their educational environments encourage the utilization of their untapped intelligences, which also enhances the students' personality and makes learning more enjoyable.

According to Shearer (2006), a Multiple Intelligences (MI) assessment may inform and inspire both teachers and students. In order to fulfill MI's promise of promoting the development of "human potential," he highlighted significant obstacles to the full-fledged application of MI-inspired ideas that future research must address. One of these is how can their efforts in utilizing their MI strengths to improve cognitive limitations be sustained over an extended period of time? How can teachers carry on using MI-inspired teaching methods if the novelty, elation, and backing go off? How can students who are entrenched in systems continue to use their MI strengths to learn in novel ways.

Identifying student diversity in a higher education classroom is the first step in developing a successful instructional style. Multiple Intelligences is one notion that is utilized to pinpoint learning disparities. Ferrios (2004) emphasized that one reason to think about using the theory of MI for teaching students with special needs is to assist teachers, students, and parents in realizing that there are various ways to learn and that they themselves possess various types of intellectual strengths and life skills. In addition to improving students' academic performance and excitement for learning, MI can alter teachers' impressions of their students' learning capacities. When teaching kids who have been identified as needing special education assistance, MI

reveals academic talents and values alternate learning styles.

Kennedy-Murray Linda N (2016) investigated whether there was a connection between the MI instructional tactics that instructors employed in the classroom and their familiarity with Gardner's multiple intelligences (MI) theory. The theoretical underpinning for the study was Gardner's Multiple Intelligences (MI) theory, which affirms the notion that each child will learn more effectively if teachers can recognize his or her individual multiple intelligences (e.g., interpersonal, intrapersonal, visual-spatial, musical, bodily-kinesthetic, mathematical-logical, verbal-linguistic, and naturalistic) and then teach to those strengths. The findings showed that most teachers (61%) were either unfamiliar with or just vaguely familiar with Gardner's MI hypothesis. There was no significant correlation between teacher classroom practices and acquaintance with Gardner's theory, according to a straightforward linear regression. The best classroom techniques for teachers to serve a wide range of varied learners were advised, along with undertaking additional research on MI with a bigger sample size. The local site should be given information and suggestions that will advance the conversation about what schools can do to encourage learning and academic achievement for all kids. This will have implications for positive social change.

King and Ganotice (2013) used both within- and between-network approaches to build validation to explore the cross-cultural validity of this model in the Philippine context. The construct validity of the model was validated by confirmatory factor analysis. The four second-order goals—mastery, performance, social, and extrinsic—that were created from the initial eight types of first-order goals—task, effort, competition, social power, social affiliation, social concern, praise, and token goals—formed a third-order element known as global motivation. It was discovered that performance, mastery, and extrinsic goals were all favorably associated with academic success. Extrinsic and social goals had a favorable impact on academic performance. Overall, the findings confirmed the hierarchical and multidimensional model of student motivation's cross-cultural validity in a non-Western setting.

The Malaysian secondary schools, Zainudin (2012) looked into how teachers and students perceived the learning profiles of their respective charges. The Multiple Intelligence (MI) theory of Howard Gardner served as the foundation for this study. In two rounds of the research project, the opinions and expectations of the teachers regarding the learning profiles of their students were contrasted with those of the students regarding their own learning profiles. The results demonstrated that a number of factors either support or hinder students' and teachers' metacognition in order to comprehend the students' MI profiles. Teachers frequently categorize kids while taking their needs into account.

The results of Orog's (2012) study demonstrated how each student's many intelligences were relevant to their performance in the Broadway musical presentation. A significant portion of the student population was musically inclined, according to the assessment of MI per student, which also revealed that they engaged in physical activity while learning. Students who had a musical bent were working at a level of coordination with tactile-kinesthetic learners, or both intelligences were present in the same group of students. The performance-based assessment confirms the association, indicating that a musically oriented student almost shares the same level of learning style as the tactile kinesthetic group of learners. The learning strategy should be consistent with learners' Multiple Intelligence categories as a result.

Based on Gardner's multiple intelligences theory, Ahvan and Pour (2016) looked at the connection between high school students' academic performance and multiple intelligences. The study's findings supported Gardner's claim that everyone had multiple intelligences. They came to the conclusion that the kids' most predominate intellect is verbal-linguistic, whereas their least predominate intelligence is musical. The proof showed how different intelligences are interrelated and work together to enhance performance. Interpersonal, intrapersonal, naturalistic, and bodily-kinesthetic intelligences are marginally connected with academic success, whereas musical intelligence is not. The verbal-linguistic and visual-spatial intelligences are moderately correlated with academic success.

Many educators who incorporate multiple intelligences and learning styles into the classroom ponder the significance of pupils understanding these concepts. We know from experience that students who comprehend the models are better equipped to comprehend their own learning profiles, develop adaptability and flexibility in their thinking, and set reasonable goals for minimizing learning weaknesses and increasing learning strengths. In reality, research on the value of metacognitive thinking is consistent with the idea that teaching strategies that encourage students to examine their own learning processes are very helpful to their overall learning and often increase their motivation to become better learners (Brown, 1988; Marzano et al., 1988).

All of the information are motivational factors that became the basis of the researcher to arrive a decision to conduct this study. It seems that there is a need to investigate the practice of the GMI in order to determine its benefits to the teachers and students in a local setting.

## METHODS

The descriptive correlational approach of research was used in the study. There are 129 senior high school teachers and 361 students from various secondary schools in Isabela Province make up the study's

respondents. With a 95% confidence level and a 5% margin of error, respondents were randomly chosen to represent each category. Three (3) questionnaires were adapted by the researcher, one of which being "Teacher's Practice of Multiple Intelligences (MI) Theory" by Al-Wadi, N. (2011). The other two (2) were the Hardre, P., Davis, K., & Sullivan, D (2008). Motivating Students Questionnaire (MSQ) and Perceptions of Student Motivation Questionnaire (PSM). The Statistical Package for Social Sciences (SPSS) was used to analyze the data. The frequency, percentage and means were used to describe the data and the Kendall Tau b was utilized to determine the association between the variables under study.

## RESULTS AND DISCUSSIONS

### A. Profile of Senior High School Teacher-Respondents

**Table 1: Profile of the Senior High School Teacher-Respondents**

Profile	Frequency	Percent
	n=129	
Age		
20 - 26	52	40.31
27 - 33	38	29.46
34 - 40	22	17.05
41 - 47	9	6.98
48 - 54	8	6.20
Mean age: 31.07		
Gender		
Male	43	33.33
Female	80	62.02
LGBT	5	3.88
Civil Status		
Single	62	48.06
Married	63	48.84
Widow/er	4	3.10
Specialization		
Social and Behavioral Sciences	19	14.73
Accountancy, Business and Management	9	6.98
Natural Sciences	22	17.05
Mathematics and Applied Sciences	18	13.95
Music, Arts, and Physical Education	8	6.20
Vocational, Technology and Livelihood Education	18	13.95
Language Education	32	24.81
ICT related	3	2.33
Highest Educational Attainment		
Bachelor's Degree	46	35.66
Bachelor's Degree with units in Masters	60	46.51
Master's Degree	15	11.63
Master's Degree with units in Doctorate	8	6.20

As gleaned from the table, the youngest is 20 years old and the oldest is 54 years old. Out of the 129 respondents, majority, numbering to 52 or 40.31 percent had ages ranging from 20 – 26 years old, followed by 38 or 29.46 under the age range of 27 – 33 and 22 or 17.05 percent who were from 34 – 40.

A few numbering to nine or 6.98 percent were from 41 – 47 years old and 8 or 6.20 percent with ages from 48 – 54 years old. The mean age of the respondents is 31.07.

Most of the respondents were female comprising 80 or 62.02 percent out of 129, followed by the males with 43 or 33.33 percent and there were only five or 3.88 percent from the LGBT group.

Majority were married with 63 or 48.84 percent while the singles were comprised of 62 or 48.06 percent. There were four or 3.10 percent widowed among the group of teacher-respondents.

The teacher-respondents whose specialization were categorized under "Language Education" comprised the highest number of 32 or 24.81 percent, followed by 22 or 17.05 percent under the "Natural Sciences"



category. There were 19 or 14.73 percent with specializations under the “Social and Behavioral Sciences”; and 18 or 13.95 percent each under the “Mathematics and Applied Sciences” and “Vocational, Technology and Livelihood Education”. Nine or 6.98 percent had specializations under the “Accountancy, Business and Management”, 8 or 6.20 percent under the “Music, Arts, and Physical Education” and the least number of three or 2.33 percent under ICT related specializations. The highest educational attainment of the teacher-respondents is Master’s Degree while those with units in Doctorate consisted of 8 or 6.20 percent. Majority with 60 or 46.51 percent were Bachelor’s Degree holders with units in Masters followed by 46 or 35.66 percent Bachelor’s Degree holders. There were 15 or 11.63 percent who were Master’s Degree holders.

**B. Level of Awareness of Gardner’s Multiple Intelligences (GMI) Theories**

**Table 2: Senior High School Teacher-Respondents' Level of Awareness of Gardner’s Multiple Intelligences Theories GMI)**

Level	Frequency	Percent
Not Familiar	8	6.20
Somewhat Familiar	15	11.63
Familiar	21	16.28
Adequately Familiar	48	37.21
Very Familiar	37	28.68
Total	129	100.00

It can be noted further that most, with 48 or 37.21 percent were adequately familiar; followed by 37 or 28.68 percent who were very familiar; 21 or 16.28 familiar and 15 or 11.63 percent were somewhat familiar. There were eight or 6.20 percent who were not familiar with Gardner’s Multiple Intelligences Theories.

**C. Extent of Senior High School Teachers' Practice of the Multiple Intelligences (MI) Theories in the Classroom**

**Table 3: Extent of Senior High School Teachers’ Practice of the MI Theories in the Classroom**

MI Modality	Students		Teacher		Grand Mean	Desc.	Z	Sig.
	Mean	Desc.	Mean	Desc.				
Linguistic Intelligence								
1. Read or lecture to the class.	4.26	FR	4.18	FR	4.22	FR	1.05 <sup>ns</sup>	0.29
2. Give the students the option to discuss or debate during class.	3.71	FR	3.96	FR	3.83	FR	2.78*	0.01
3. Encourage students to employ their verbal skills to communicate, solve problems, and express inner feelings.	4.2	FR	4.59	VF	4.39	FR	4.37*	0.00
4. Require students to read during class.	3.9	FR	3.94	FR	3.92	FR	0.27 <sup>ns</sup>	0.79
5. Require students to perform writing activities in the class.	4.04	FR	4.06	FR	4.05	FR	0.12 <sup>ns</sup>	0.90
Intrapersonal Intelligence								
1. Give students the opportunity to set their own personal goals.	4.06	FR	4.23	FR	4.15	FR	1.68 <sup>ns</sup>	0.09
2. Give students the opportunity for introspection or deep thinking.	3.8	FR	4.34	FR	4.07	FR	6.10*	0.00
3. Encourage students to make connections between what is being taught in class and what they experience in real life.	4.07	FR	4.56	VF	4.32	FR	5.61*	0.00
4. Give students opportunities to make decisions about their learning experiences.	3.96	FR	4.34	FR	4.15	FR	3.93*	0.00

5. Allow students to express their feelings during the class (e.g., excitement and so on).	4.04	FR	4.46	FR	4.25	FR	4.51*	0.00
Interpersonal Intelligence								
1. Encourage students to perform group brain-storming.	3.93	FR	4.43	FR	4.18	FR	5.40*	0.00
2. Give students the opportunity to work in cooperative groups	3.94	FR	4.41	FR	4.18	FR	5.34*	0.00
3. Encourage students to peer tutor or help each other in class.	3.61	FR	4.27	FR	3.94	FR	6.40*	0.00
4. Encourage students to develop socially thorough their classroom interactions.	3.89	FR	4.43	FR	4.16	FR	6.04*	0.00
5. Encourage students to share with one another.	3.82	FR	4.42	FR	4.12	FR	- 6.31*	0.00
Mathematical Intelligence								
1. Encourage students to think scientifically about things.	3.76	FR	4.22	FR	3.99	FR	5.04*	0.00
2. Encourage students to logically organize and sequence concepts.	3.7	FR	4.22	FR	3.96	FR	5.52*	0.00
3. Give the opportunity to students to perform logical problem-solving exercises.	3.82	FR	4.06	FR	3.94	FR	2.65*	0.01
4. Incorporate mathematical problem solving in his/her teaching.	3.72	FR	3.73	FR	3.73	FR	0.32 ns	0.75
5. Encourage students to perform scientific demonstration/experimentation.	3.57	FR	3.79	FR	3.68	FR	2.32*	0.02
Spatial Intelligence								
1. Use visual presentations during class (e.g., write on chalkboard, use overhead projector).	4.11	FR	4.64	VF	4.37	FR	5.23*	0.00
2. Encourage students to visually represent the concepts being taught/discussed.	3.91	FR	4.44	FR	4.17	FR	6.36*	0.00
3. Encourage students to visualize what they read or hear during class.	3.86	FR	4.47	FR	4.17	FR	6.24*	0.00
4. Use visual aids in class such as maps, charts, and diagrams.	3.64	FR	4.22	FR	3.93	FR	5.28*	0.00
5. Show video, slides, or movies during class.	4.08	FR	4.24	FR	4.16	FR	1.58 ns	0.11
Musical Intelligence								
1. Play recorded music to the students	3.18	SO	3.47	SO	3.32	SO	2.45*	0.01
2. Give students the opportunity to express their ideas musically.	3.42	SO	3.39	SO	3.4	SO	0.21 ns	0.83
3. Incorporate the use of musical instruments into classroom teaching.	3.09	SO	3.13	SO	3.11	SO	0.55 ns	0.58
4. Use rhythms, chants, raps, or songs in classroom teaching	2.92	SO	3.23	SO	3.07	SO	2.51*	0.01
5. Make tapping sounds or sing little melodies while teaching	2.85	SO	3.04	SO	2.95	SO	0.59 ns	0.11
Bodily Intelligence								
1. Provide students with the opportunity to learn by manipulating objects or by making things with their hands.	3.71	FR	3.92	FR	3.81	FR	1.87 ns	0.06

2. Provide students with tactical materials and experience.	3.66	FR	3.82	FR	3.74	FR	1.60 <sub>ns</sub>	0.11
3. Teach students physical relaxation exercises.	3.59	FR	3.65	FR	3.62	FR	0.61 <sub>ns</sub>	0.54
4. Give students the opportunity to use drama, dance, or physical activity as a part of their learning process.	4.07	FR	3.91	FR	3.99	FR	1.12 <sub>ns</sub>	0.26
Naturalistic Intelligence								
1. Incorporate nature into curriculum themes.	3.67	FR	3.93	FR	3.8	FR	3.03*	0.00
2. Give the students the opportunity to classify or sort objects, events, living things, or phenomena into clusters according to their common characteristics	3.62	FR	3.82	FR	3.72	FR	2.27*	0.02
3. Give students the opportunity to study about different plants and animals.	3.44	SO	3.41	SO	3.43	SO	0.25 <sub>ns</sub>	0.80
4. Provide field trips for students to explore the natural environment.	2.86	SO	2.82	SO	2.84	SO	0.28 <sub>ns</sub>	0.78
5. Give students the opportunity to work with or study about natural phenomena.	3.37	SO	3.46	SO	3.42	SO	0.99 <sub>ns</sub>	0.32
*Significant    ns- Not Significant    VF = Very Frequently    FR = Frequently    SO = Sometimes								

### Linguistic Intelligence

Table 3 revealed mean ratings from 3.71 to 4.36 indicating that both the students and teachers themselves both perceive that linguistic intelligences theory is frequently practiced in the classroom. This further suggests that the senior high school teachers often read or lecture to the class, give the students the option to discuss or debate during class, require students to read during class and require students to perform writing activities in the class. On the other hand, the mean rating of 4.59 from the teachers themselves asserted that they encourage students to employ their verbal skills to communicate, solve problems, and express inner feelings very frequently while on the part of the students, such practice is frequently observed as indicated by the mean rating of 4.20

The grand mean ratings from 3.83 to 4.39 further revealed that the senior high school teachers frequently practiced linguistic intelligence activities in the classroom.

The Z-scores of 2.78 and 4.37 had significance levels less than 0.05 which implied that students and teachers give significantly different perceptions about the practice of the linguistic intelligence in the classroom. The teachers themselves have a significantly higher rating as compared to the students as far as giving the students the option to discuss or debate during class and encouraging students to employ their verbal skills to communicate, solving problems, and expressing their inner feelings are concerned.

### Intrapersonal Intelligence

The mean ratings from 3.80 to 4.06 given by the students and 4.07 to 4.46 by the teachers themselves which resulted to grand mean ratings from 4.07 to 4.32 shown in Table 4, revealed that both assume that the intrapersonal intelligence is frequently practiced in the classroom. Hence, the senior high school teachers frequently give the students the opportunity to set their own personal goals, the opportunity for introspection or deep thinking and to make decisions about their learning experiences as well as allowing students to express their feelings during the class (e.g., excitement and so on).

As regards encouraging students to make connections between what is being taught in class and what they experience in real life, it can be noted that the teachers rated themselves with 4.56 indicating they are practicing it very frequently while the students gave a rating of 4.07 which connoted that they frequently observe it in the classroom.

Furthermore, the students and the teachers themselves significantly differed in their observations about the practice of the four activities pertaining to intrapersonal intelligence in the classroom. The Z-scores from 3.93 to 6.10 with significance levels less than 0.05 revealed that the teachers rated themselves significantly higher as compared to their students as far as their practice of giving students the opportunity for introspection or deep thinking making decisions about their learning experiences, encouraging students to make connections



between what is being taught in class and what they experience in real life and allowing them to express their feelings during the class (e.g., excitement and so on) are concerned.

### **Interpersonal Intelligence**

Table 3 also revealed mean ratings from 3.61 to 4.41 from both groups of respondents which resulted to grand means of 3.94 to 4.18. The data suggests that both students and the teachers agree that they frequently observe the practice of intrapersonal intelligence in the classroom. Hence, based on their observation, the senior high school teachers frequently practice encouraging students to perform group brain-storming, to peer tutor or help each other in class, help them develop socially thorough their classroom interactions and to share with one another. The teachers also observe that they often give students the opportunity to work in cooperative groups.

However, the data revealed further that there were significant differences between the students and the teachers in their perception about the practice of intrapersonal intelligence in the classroom as shown by the Z-scores from 5.34 to 6.40 with significance levels less than 0.05 level. The teacher group rated themselves significantly higher as compared to their students.

### **Mathematical Intelligence**

The practice of mathematical intelligence is also perceived to have been used frequently observed in the classroom by both groups of respondents. As gleaned from Table 3, the mean ratings ranging from 3.57 to 3.82 and 3.73 to 4.22 from the students and the teachers themselves, respectively, resulted to the grand mean ratings ranging from 3.68 to 3.99 which implied that mathematical intelligence theory is frequently observed in the classroom. Hence, it can be noted further that the senior high school teachers were observed that they frequently encourage students to think scientifically about things, logically organize and sequence concepts and perform scientific demonstration/ experimentation. Oftentimes, they give the opportunity to students to perform logical problem-solving exercises and they incorporate mathematical problem solving in their teaching.

The Z-cores from 2.32 to 5.04 with significance levels less than 0.05 further revealed that the students and the teachers gave significantly different perceptions about the practice of mathematical intelligence theory in the classroom. Based on observations, the teachers rated themselves higher as compared to their students as far as encouraging students to think scientifically about things, logically organize and sequence concepts and performing scientific demonstration/ experimentation as well as in giving opportunity to students to perform logical problem-solving exercises are concerned.

### **Spatial Intelligence**

Table 3 reveals mean ratings of 3.64 to 4.08 given by the students and mean ratings of 4.22 to 4.47 given by the teachers which resulted to grand mean ratings ranging from 3.93 to 4.17. This data reveals that both group of respondents observe that spatial intelligence theory is being practiced by the senior high school teacher in the classroom that is they frequently encourage students to visually represent the concepts being taught / discussed and to visualize what they read or hear during class. The teachers were also observed to have been frequently use visual aids in class such as maps, charts, and diagrams and showing videos, slides, or movies during class.

The mean rating of 4.64 reveal that the teachers assert that they use visual presentations during class (e.g., write on chalkboard, use overhead projector) in the classroom very frequently while the students, on the other hand, gave a lower rating of 4.11 indicating that this activity is only frequently practiced.

Furthermore, the Z-scores from 5.23 to 6.36 with significance levels less than 0.05 reveal that the teachers gave a significantly higher rating as compared to the students in their frequency of practicing the spatial intelligence theory in the classroom, particularly in their use of visual presentations during class (e.g., write on chalkboard, use overhead projector) and visual aids in class such as maps, charts, and diagrams as well as in encouraging students to visually represent the concepts being taught/ discussed and to visualize what they read or hear during class.

### **Musical Intelligence**

Table 3 reveals mean ratings ranging from 2.85 to 3.42 from the student group and 3.04 to 3.47 from the teachers' group which resulted to grand mean ratings which range from 2.95 to 3.40 indicating that musical intelligence theory was sometimes practiced by the senior high school teachers in the classroom. More specifically, both groups of respondents observe that the teachers sometimes play recorded music to the students, give them the opportunity to express their ideas musically, incorporate the use of musical instruments in classroom teaching, use rhythms, chants, raps, or songs in classroom teaching and make tapping sounds or sing little melodies while teaching.

The Z-scores of 2.45 and 2.51 with 0.01 levels of significance further imply that there is a significant

difference between the perception of the students and the teachers in two practices pertaining to musical intelligence theory. The teachers gave themselves a higher rating as compared to the students about their practice of playing recorded music to the students and using rhythms, chants, raps, or songs in classroom teaching.

### **Bodily Intelligence**

The practice of this theory in the classroom was perceived to be frequently employed as per observation from the students who gave the mean ratings of 3.59 to 4.07 and the teachers with the mean ratings of 3.65 to 3.93 which resulted to the grand mean ratings of 3.62 to 3.99. Thus, both groups of respondents assume that the senior high school teachers frequently provide students with the opportunity to learn by manipulating objects or by making things with their hands, provide them with tactical materials and experience, teach students physical relaxation exercises and give students the opportunity to use drama, dance, or physical activity as a part of their learning process.

The Z-scores of 0.61 to 1.87 have significance levels greater than 0.05 which shows that the observation of the two groups of respondents regarding the practice of the bodily intelligence theory in the classroom are comparable.

### **Naturalistic Intelligence**

Table 3 reveals mean ratings of 3.62 and 3.82 with a grand mean of 3.72 which indicates that both teachers and the students observe that the teachers in senior high schools frequently give students the opportunity to study about different plants and animals. On the other hand, mean ratings of 2.86 to 3.44 from students and 2.82 to 3.46 from teachers which resulted to grand means ranging from 2.84 to 3.43 reveal that the practice of naturalistic intelligence theory is sometimes observed in the classroom. Thus, it can be noted that the senior high school teachers sometimes incorporate nature into curriculum themes, give the students the opportunity to classify or sort objects, events, living things, or phenomena into clusters according to their common characteristics, provide field trips for students to explore the natural environment and give students the opportunity to work with or study about natural phenomena.

Finally, the Z-core of 2.27 with 0.02 level of significance implies that teacher's give a significantly higher rating to themselves as far as their frequency of incorporating nature into curriculum themes as concerned.

It can be noted that many educators have had the experience of not being able to reach some students that is until they present the information in a completely different way or providing new options for student expression. Because of these kinds of experiences, the theory of multiple intelligences resonates with many educators. However, the theory is also often misunderstood, which can lead to it being used interchangeably with learning styles or applying it in ways that can limit student potential. While the theory of multiple intelligences is a powerful way to think about learning, it is also important to understand that a one-size-fits-all approach to education will invariably leave some students behind.

The results reveal that the senior high school teachers positively respond to Gardner's theory and are embracing this theory. It can be noted that all intelligences are needed to live life and when educators are given the freedom to move away from the traditional, visual-based methods of teaching, they will have the opportunity to reach more students more effectively. As revealed by the findings of the study, the senior high school teachers attended to all intelligences.

### **C. Relationship between the Perception on the Extent of senior high school teachers' practice of the Multiple Intelligences (MI) theory in the classroom and their Age, Gender and Civil Status**

The practice of spatial and bodily multiple intelligence theory in the classroom were found to have a significant association with the age of the senior high school teachers as revealed by the same correlation value of -0.16 with 0.04 significance level. Hence, it can be noted that there is a greater chance that as the senior high school teachers gets older, the lesser they will use visual aids such as maps, charts, and diagrams in class and give students the opportunity to use drama, dance, or physical activity as a part of their learning process.

Likewise, the same correlation value of 0.17 with significance levels less than 0.05. This reveals that the practice of linguistic and interpersonal intelligence in some ways, have a significant bearing on the gender of the senior high school teachers. More specifically, it was observed that the LGBT senior high school teachers were more inclined to practice reading or lecturing to the class and encourage students to peer tutor or help each other in class than the male or female teachers.

The civil status of the senior high school teachers was found to have no significant bearing on their practice of the different multiple intelligence theories in the classroom. This was revealed by the correlation values of -0.12 to 0.01 with significance levels greater than 0.05.

The findings of this study can also add up to the findings of Jouzdani, Mani & Tavakkoli, Mansoor & Ketabi, Saeed (2014) where they discovered that as the age of the teacher increase, to some extent, their preference in

using interpersonal intelligence over bodily/kinesthetic intelligence increases as well. Also, the case study conducted on one of the institutional teachers proved that teachers of older ages prefer using interpersonal intelligence over bodily/kinesthetic one. In this study, in some instances, the use of spatial and bodily multiple intelligence theory in the classroom were also found to have a significant association with the age of the senior high school teachers. There is a greater chance that as the senior high school teacher gets older, the lesser they will use visual aids such as maps, charts, and diagrams in class and give students the opportunity to use drama, dance, or physical activity as a part of their learning process.

#### **D. Relationship between the Perception on the Extent of senior high school teachers' practice of the Multiple Intelligences (MI) theory in the classroom and their Specialization and Highest Educational Attainment**

It also shows a correlation value of 0.15 with 0.05 level of significance which indicates a significant association between the application of one linguistic theory and the type of specialization of the senior high school teachers. The data further revealed that there is a greater tendency that those who specialized in the language education have the greater tendency to encourage students to employ their verbal skills to communicate, solve problems, and express inner feelings.

Finally, the correlation values of -0.16 and 0.17 with significance levels less than 0.05 reveals that practice of spatial intelligence theory has a significant association with the highest educational attainment of the senior high school teachers. Hence, there is a greater tendency that as they pursue a higher ladder of education, the lesser would be their use of visual presentations during class (e.g., write on chalkboard, use overhead projector) and the less likely they would encourage students to visually represent the concepts being taught/discussed.

Many educators have had the experience of not being able to reach some students until presenting the information in a completely different way or providing new options for student expression. According to Tezel (2017), variables such as the type of high school the students graduated from, the number of years of English learning, and gender of prospective English teachers do not have any effect on the linguistic intelligence scores of prospective English teachers either. The findings of the present study somehow did not totally conform with the findings of Tezel since it showed a significant relationship between the gender and how the senior high school read or lecture to the class which is one aspect of linguistic intelligence.

#### **E. Relationship between the Perception on the Extent of Senior High School Teachers' Practice of the Multiple Intelligences (MI) Theory in the Classroom and their Awareness of Gardner's Multiple Intelligences (GMI) Theories**

In general, the correlation values -0.13 to 0.12 with significance levels greater than 0.05 imply that the level of awareness of the senior high school teachers of the GMI theories is not significantly associated with their practice of the different multiple intelligences in theories in the classroom. Only linguistic intelligence has a bearing on their level of awareness of the GMI theories as indicated by the correlation value of -0.18 with a significance level of 0.02. This further revealed a significant but inverse association which means that senior high school teachers will tend to lessen their practice of giving the students the option to discuss or debate during class as they become more aware of the GMI theories.

This finding support Tezel (2017) who inferred that language is normally associated with linguistic capabilities of individuals. In the theory of multiple intelligences, language is considered to be related primarily to linguistic intelligence. Likewise, the aforementioned findings conformed to Kennedy-Murray (2016) who asserted a no significant relationship between teacher classroom practices and familiarity with Gardner's theory. On the other hand, it did not agree with Yalmanci and Gözümlü (2013) who stated that teachers and planners think of activities for each intelligence type, enhance their methods and teaching strategies, and reveal different and original techniques. The key premise is that teachers who are knowledgeable about MI theory are better able to identify the intelligence profile of the students having difficulty in comprehending the subject.

### **CONCLUSIONS AND RECOMMENDATIONS**

The final analysis reflected that the senior high school teachers were adequately familiar with Gardner's Multiple Intelligences (GMI) theory and how to implement it in the classroom. To recapitulate, the abilities developed in the implementation if this theory were as follows: Linguistic Intelligence which refers to well-developed verbal skills and sensitivity to the sounds, meanings and rhythms of words; Intrapersonal Intelligence is self-awareness and in tune with inner feelings, values, beliefs and thinking processes; Interpersonal Intelligence is one's ability to detect and respond appropriately to the moods, motivations and desires of others; Mathematical Intelligence is thinking conceptually and abstractly, and the capacity to discern logical or numerical patterns; Musical Intelligence means producing produce and appreciating rhythm, pitch and timbre; Spatial Intelligence means thinking in images and pictures and ability to visualize accurately and

abstractly; Bodily Intelligence is control of one's body movements and ability to handle objects skillfully; and Naturalist Intelligence is being able to recognize and categorize plants, animals and other objects in nature.

While teachers were adequately aware of GMI theory, the result generally showed that it is unrelated to their extent of practice of the Multiple Intelligences (MI) theory in the classroom, level of perception about student motivation and extent of self-efficacy for motivating students and the strategies they use in the classroom.

The study revealed significant associations of the teachers' age, gender, specialization and highest educational attainment with their extent of practice of the Multiple Intelligences (MI) theory in the classroom, level of perception about student motivation and extent of self-efficacy for motivating students and the strategies they use in the classroom. However, it was noted that these were only on very few aspects within the variables of the study.

Specifically, as to the practice of GMI theory in the classroom, it can be noted that age was significantly associated with teachers' use of visual aids such as maps, charts, and diagrams in class and giving students the opportunity to use drama, dance, or physical activity as a part of their learning process; gender is significantly associated with the practice reading or lecturing to the class and encouraging students to peer tutor or help each other in class; specialization is significantly associated with the encouraging of students to employ their verbal skills to communicate, solve problems, and express inner feelings and highest educational attainment with the use of visual presentations during class (e.g., write on chalkboard/whiteboard, use overhead projector) and encourage students to visually represent the concepts being taught/ discussed.

As far as the perception about student motivation in the classroom and the senior high school teachers' profile is concerned, only significant relationships were seen between gender and the teacher's belief that students in their class who are not interested in learning are that way because of peer pressure to devalue school.

Based on the findings, it is recommended that the senior high school classroom teachers should be encouraged to regularly incorporate MI theories into their lesson plans as an extension of this study. This calls for teachers at the high school level to have more resources in place for their practice of MI theories in order to support their abilities to properly educate and motivate students to sustain their education. It also calls for self-development through reading, studying, and learning more about not only Gardner's theory but other theory-based practices.

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