

**CONGRUENCY OF TEACHERS TEACHING STYLE (TS), AND STUDENTS  
LEARNING STYLE (LS) IN MINDANAO STATE UNIVERSITY (MSU) BALINDONG  
COMMUNITY HIGH SCHOOL: AN ASSESSMENT**

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**ABSTRACT**

This study empirically assess the congruence of teaching styles (TS) and learning styles (LS) of teachers and learners of Mindanao State University Balindong Community High School. Descriptive and analytical research design was used to gather data among 15 grade 7 and grade 8 teachers and 80 grade 8 students during school year 2017-2018. Research instruments employed were teaching style survey, multiple intelligences teaching styles, and learning styles from different models. Classroom observation and interviews were also conducted for the purpose of data triangulation. Analysis was done quantitatively and qualitatively. Findings revealed that teachers and learners in MSU-BCHS are multimodal in terms of teaching styles and learning styles respectively. Teachers teaching styles mostly match the learning styles of the learners. Thus, the study concluded that when teachers TS match the learners LS, teaching and learning will be exciting and meaningful. Although, matching TS to LS does not guarantee for a 100% increase to students' academic performance but it has an implication to education academic success. As such, the study recommend that discovering TS and LS is encourage to allows teachers and students to determine strength and weaknesses to incorporate and match the TS according to the learners learning style preference.

**Keywords:** Teaching style, learning style, multiple intelligences, assessment, implication to Education

**INTRODUCTION**

Every person is unique thus, teaching styles and learning styles vary from one person to the other. Many researchers said that when teaching styles matches the learning styles of the students, students' achievement increases in a way that teaching styles affect how students learn ((Dunn, Beaudry, & Klavas, 1989). Richards & Rodges (2001) pointed out that teaching methods is a determinant to the success or failure in teaching and learning. Teachers and learners can shape their own process considering that individual may possess multiple intelligences. The nature of learners and teachers differences is brought by individual differences. Individual student may take in and comprehend information in different manners and may dependent also on teaching styles.

Masse and Popovich (2006), reiterate that teachers play a critical role in the teaching/learning process and it may impact varied areas like classroom behaviors, presentations, activities and approaches. Study of Oxford (1992) as mentioned by Kara (2009), conflict between students and

teachers teaching styles were found to be 82%. Research findings of Reid (1987), as cited by Kara (2009) also confirmed that when learning and teaching styles mismatched, students learning and attitudes are also affected. Peakock (2001) affirmed that students learning will become harder, and student will work harder if teacher style and learner style is mismatch. There are several studies conducted from different countries outside Philippines regarding teaching and learning styles matching and most of their recommendation and suggestions to teachers is to assess the learning style of both the teachers and students' and teachers should try to accommodate all learning styles of the students.

Chatterjee & Ramish (2015) research findings established a strong justification that it is very rare that individual have common learning styles, thus, teachers must explore different teaching styles to cater students' different learning styles. Exposing students to different learning activities can adopt a wider field of student learning styles in order to achieve more effective learning. Findings of Hawk and Shah (2007) as cited by Chatterjee & Ramish (2015) revealed that most faculties in higher education used teaching style that merges (1) the ways theyprefer to learn and (2) approaches to teaching they saw as effective for their own learning in their highereducation programs. They further contend that many faculties are unfamiliar with their own learning style and lack potential to enhance students learning process. Mostly are not also aware of the students learning styles. Le (1999) and Nguyen (2005) research findings suggested that there is a need to assess learners learning styles as well as other relevant variables that directly or indirectly influence the learning ability of the learners and accommodate different learners.

As such, this study examined the congruency of teachers teaching styles, multiple intelligences, and learning style using the different attributes of teaching and learning that consider the multiple intelligences of the teachers and the learners. Specifically, aiming to investigate the following:

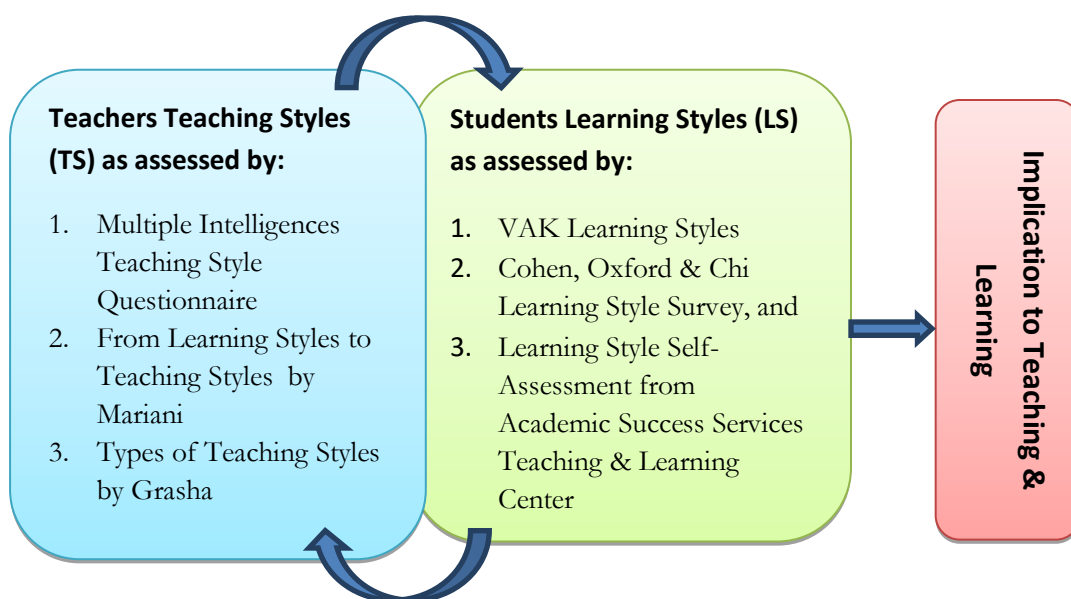
1. What is/are the Teaching Styles (TS) used by grade 7 and grade 8 teachers in Mindanao State University – Balindong Community High School (MSU-BCHS)
2. What is the Multiple Intelligences (MI) applied by the grade 7 and grade 8 teachers TS in MSU-BCHS?
3. What is/are the preferred Learning Styles (LS) of grade 8 learners in MSU-BCHS?
4. How congruent is the teachers TS and students LS?
5. What is the implication of TS and LS congruency to students' academic performance?

### **Theoretical and Conceptual Framework of the Study**

There is no single teaching style that suit to the needs of the learners' ability to learn. Each teaching style is effective in some situation considering that each of us has individual differences and multiple intelligences. The most important thing in teaching is to encourage and allow the learners to assess their needs and direct their learning. According to Quirk (1994), teaching styles varies from teacher to teacher. Teachers may be assertive, suggestive, collaborative, and facilitative. VAK theory emphasize that when teachers ensure their designed activities to be carried out in class in accordance to the learners ability, meaningful and successful teaching-learning process will be accomplished. Teachers must employ different instructional strategies in teaching to help the learners interact the subject being taught in a way that the learners understand it well. Giving student different opportunity to learning will help them discover their

preferred learning styles, and discover their strength and weaknesses. As mentioned by Nzesei (2015) in his study, learners received information based on VAK theory in varied form such as modalities which involves visual or sight, pictures, diagrams, and symbols. Another one is through auditory (sounds, words), and kinesthetis (taste, touch, and smell).

Figure 1 shows the interplay of the teachers teaching styles and students learning style. The interplay may be cyclical or iterative and both will directly or indirectly influence each other and at the same time affect the teaching and learning process.



**Figure 1 Conceptual Framework of the Study**

**Literature & Studies Cited**

Teaching styles varies from teacher to teacher. Likewise, individual learners have different learning styles also. This idea is supported with the statement of individual differences and multiple intelligences. To support this claims many studies conducted in relation to teaching styles, learning styles and multiple intelligences are cited in many researches. Le (1999) and Nguyen (2005) investigated the differences in learning strategies and style of learners in English course discovered that learning style preference of the learners are usually ignored in the learning process. Moreover, they found out that many English teachers are not aware of their students’ styles of learning, and ignore the importance of identifying learners learning styles. Martin and Sass (2009) believed that teachers play an important role in classrooms. Results of the study

conducted by course (Boatman, Courtney and Lee, 2008), found out that the congruency of teaching style and learning style is an effective predictor of teacher-student fit. Furthermore, the nature of the subject has an important role in analysing LS and TS congruency to untangle student performance. Students learn in different ways, thus they need different ways of teaching in order to accommodate the learning needs of each students and at the same time recognizing their individual differences and multiple intelligences (Claxton & Murrell, 1987; Coffield et al., 2004).

Kara (2009) research findings revealed that learners in Anadolu University feel unhappy and frustrated when their teachers failed to teach according to their favoured learning style. Teachers also said that as soon as they notice the mismatch of their teaching styles to the students learning styles, they usually tend to shift their lesson presentation or type of activities to be given to their students. Learning styles are used by students to learn new ideas, subject or lessons and to cope with new issues and problems they encounter. It will provide patterns that give direction to the learners. Dunn and Griggs (1988), define learning style as a biologically and developmentally imposed set of characteristics that make the same teaching method wonderful. Learning styles will put various approaches or ways of learning and is commonly believed that most people favor some particular method of interacting with, taking in, and processing stimuli or information (LdPride, 2009). Harkins, and Young (2008) investigation on teaching styles and its relationship between teaching styles and cognitive styles among public school teachers in Canada found that teaching styles and cognitive styles are significantly related.

Learning styles as defines by Fleming (2001) refers to “an individual’s characteristics and preferred ways of gathering, organizing, and thinking about information. Duff (2004) defines learning style as. Xiao (2006) investigated the difference in the teaching and learning styles from a culture-based perspective found to contrast to Chinese students’ expectations. Peacock (2001) investigated EFL teachers’ teaching styles and EFL learners’ learning styles at a Hong Kong University, found a mismatch of teaching styles and learning styles and suggested

Cassidy (2004) pointed out that recognizing one’s learning style is very important in determining the effective tools in mastering a topic or subject. According to Zahorick (1991), the mirror image of students learning style is the teachers teaching style. Learning style differences among students is a great challenge for the teachers to adopt varied teaching strategies to cater the individual differences of the learners. When teaching styles matches the students learning styles, students’ can easily relate the subject matter and have a better understanding of the topic or subject being taught (Chatterjee & Ramish, 2015).

The literature and studies cited above is mostly from foreign countries outside Philippines. This is a fact that investigating the congruency of TS and LS is not or rarely conducted in the Philippine setting. Thus, this study is deemed necessary so that other factors that may hinder the learners academic performance were explored considering that Filipino learners perform poorly especially in Science and Math compared to other countries.

## **RESEARCH METHODOLOGY**

This study primarily investigates the congruency of TS and LS in MSU-Balindong Community High School, 2017-2018, using descriptive and analytical research design. Descriptive design

was used in identifying, describing, interpreting and clarifying the TS and LS of the teachers and students respectively. In the descriptive design, survey methods, interviews and observations using questionnaires were applied and used by the researcher. The researcher has no control on the variables but instead reported what was happened of what is happening. In the analytical aspect, the researcher used facts and information that are already available and made a critical evaluation of the data (Kothari, 2004). Analytical design was used to establish the congruency of the teachers TS to students LS.

Participants of the study were confined only among 15 teachers, and 80 junior high school students. The fifteen (15) were purposively selected from the grade 7 and grade 8 teachers. Grade 7 teachers were included since they are the previous and or current teachers of the grade junior high school students. Grade 8 junior high school students were selected from the two sections (Section 1 and Section 2) purposively considering the researcher is their current science teacher for this school year and it is very important to assess the congruency of the TS and LS of the teachers and students respectively so that necessary adjustments and or improvement will be done as early as the school year in order to make sure that the TS of the teachers is suited to the LS of the learners and vice-versa.

The research instruments in the study were adapted from different studies conducted in other countries. Content validity was established in order to suit it in the Philippine setting. For teaching styles, *five teaching styles survey* developed by Grahsa, posted by Gill (2017) was used as guide during teachers’ classroom observations and interviews. *Teaching style assessment “from learning style to teaching style”* designed by Luciano Mariani in Milan Italy ([www.learningpaths.org](http://www.learningpaths.org)) were used, and the last is *the multiple intelligences teaching style questionnaire* from Rosie Tanner’s Multiple Intelligences web quest.

In the assessment of the students learning styles *VAK Learning Styles; Cohen, Oxford & Chi Learning Style Survey*; and *Leaning Style Self-Assessment* from Academic Success Services Teaching & Learning Center were used. Triangulation of data and information were done through interviews and classroom observations. Data gathered were analysed using quantitative and qualitative approach.

**FINDINGS**

**Teachers Teaching Styles**

Teachers teaching styles were assessed using three instruments namely: teaching style by Anthony Grasha, teaching styles were used as guide during classroom observations; teaching style assessment by Mariani and MI Teaching Style Survey as survey questionnaires.

**Table 1 Teaching Styles use by grade 7 and grade 8 teachers in MSU-BCHS base on Grasha Model**

Teaching Styles	% Average	Mean	Rank
Expert	16.92	2.2	5
Formal Authority	30.91	4.64	2
Personal Model	20.74	3.11	4

Facilitator	32.5	4.88	1
Delegator	26.67	4.0	3

**Table 2 Teaching Styles use by grade 7 and grade teachers base the teaching style survey of Mariani**

Teaching Styles	Always or nearly always	Often	Sometimes	Rarely or never	Mean
	% Average	% Average	% Average	% Average	
Visual verbal	33.33	22.22	15.56	8.89	3.6
Visual non-verbal	22.22	21.11	24.44	6.67	2.43
Auditory	6.667	27.78	21.11	15	2.57
Kinaesthetic	23.333	23.33	23.33	6.67	2.50
Global	28.0	13.33	28.0	6.0	2.44
Analytical	21.667	33.33	15	5.83	2.45
Reflective	43.33	31.67	8.33	2.5	5.65
Impulsive	20	24	14.67	10	2.36
Individual	24	17.33	21.33	10	2.48
Group	33.33	25.56	18.89	3.33	2.53

**Table 3 Teachers Teaching Practices in the Classroom**

Teachers Teaching Practices in the Classroom (N=15)	1		2		3		4		5	
	f	%	f	%	f	%	f	%	f	%
1. I remember my classes by recalling how people (learners and myself) stood, sat or moved	1	6.667	4	26.67	2	13.3	6	40	2	13.33
2. I like using roleplay and/or drama	0	0	2	13.33	4	26.7	4	26.67	3	20
3. When teaching, I use activities where learners physically move objects (e.g. game boards, cards, jigsaw readings)		0	2	13.33	2	13.3	4	26.67	5	33.33
4. I use activities in class where my learners move around		0	1	6.667	1	6.67	2	13.33	8	53.33
5. I touch my learners		0	1	6.667	5	33.3	4	26.67	3	20

6. I make visual material for my classes		0	1	6.667	1	6.67	6	40	4	26.67
7. I believe that learners learn a lot from group work	1	6.667	0	0	3	20	5	33.33	5	33.33
8. I believe that my learners learn by discussing with each other	0	0	1	6.667	3	20	4	26.67	6	40
9. My learners work in groups		0		0	3	20	5	33.33	4	26.67
10. I ask learners to reflect on how they function in a group as they learn		0		0	2	13.3	3	20	7	46.67
11. I am aware of the group dynamics in my class and/or staff team	1	6.667		0	3	20	3	20	5	33.33
12. I prefer working in a team to working independently		0	2	13.33	4	26.7	5	33.33	1	6.667
13. I prefer working independently to working in a team	0	0	2	13.33	5	33.3	4	26.67	2	13.33
14. I encourage learners to reflect individually on their own learning	0	0	1	6.667		0	3	20	5	33.33
15. I reflect about what I am doing in my work		0		0	1	6.67	7	46.67	5	33.33
16. I need quiet and privacy if I am planning	0	0	1	6.667	3	20	4	26.67	5	33.33
17. I try to give my learners tasks which have personal significance for them		0	2	13.33	5	33.3		0	5	33.33
18. I am aware of my learners as individuals in a class		0	1	6.667	2	13.3	1	6.667	8	53.33
19. I write things down in order to remember them	1	6.667	3	20	0	0	3	20	8	53.33
20. I like my learners to write things down	0	0		0	3	20	3	20	7	46.67
21. I am good at languages		0	1	6.667	2	13.3	8	53.33	2	13.33
22. I brainstorm ideas on paper		0	1	6.667	6	40	3	20	2	13.33
23. I like to use poetry or literature in my lessons	3	20		0	1	6.67	5	33.33	3	20
24. I enjoy class debates or discussions		0	1	6.667	1	6.67	7	46.67	3	20
25. I would describe myself as a	0	0	1	6.667	2	13.3	4	26.67	6	40

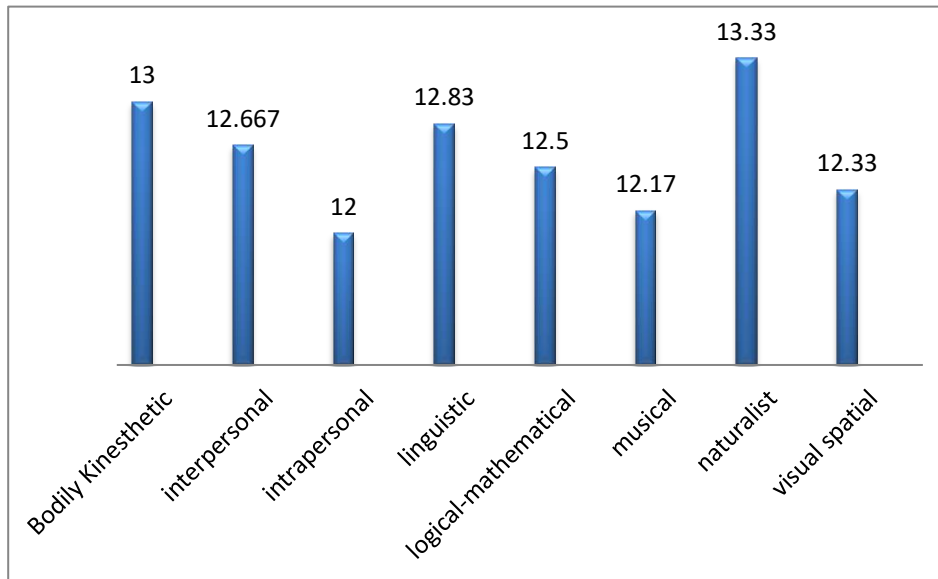
planner										
26. I enjoy calculating my learner's marks	0	0		0	2	13.3	3	20	9	60
27. I like structured agendas for meetings at school		0	2	13.33	4	26.7	4	26.67	2	13.33
28. I use diagrams and flow-charts in my teaching	1	6.667	1	6.667	4	26.7	4	26.67	2	13.33
29. I approach tasks in a logical way		0	3	20	2	13.3	5	33.33	2	13.33
30. I like helping my learners to plan and organize their work		0		0	1	6.67	3	20	8	53.33
31. I teach learners to remember things using rhymes or rhythm	0	0	3	20	5	33.3	4	26.67	1	6.667
32. It helps me if I put on background music when I am planning lessons	4	26.67	3	20	2	13.3	1	6.667	3	20
33. I integrate music into my lessons		0	7	46.67	2	13.3	1	6.667	1	6.667
34. I discuss music with my learners	6	40	2	13.33	2	13.3	1	6.667		0
35. I try to tap into my learners' musical interests	1	6.667	6	40	2	13.3	2	13.33	1	6.667
36. My learners write songs, raps or poems in my classes	2	13.33	2	13.33	4	26.7	4	26.67		0
37. I like to use environmental issues in my lessons	0	0	2	13.33	5	33.3	2	13.33	4	26.67
38. I like units in my coursebook which deal with natural phenomena (e.g. volcanoes, animals)	1	6.667	2	13.33	6	40	5	33.33		0
39. I discuss my learners' pets with them	3	20	1	6.667	6	40	3	20		0
40. I like teaching outside	2	13.33	3	20	2	13.3	3	20	2	13.33
41. I discuss gardening, natural places and/or environmental issues with colleagues	2	13.33	2	13.33	4	26.7	1	6.667	3	20
42. I am aware of the weather outside my classroom		0		0	1	6.67	4	26.67	7	46.67
43. I use picture in my teaching	2	13.33	1	6.667	6	40	3	20	1	6.667
44. I use mind maps, tables and/or diagrams (e.g. when	0	0	2	13.33	4	26.7	2	13.33	5	33.33



planning)										
45. When I think back to a lesson, I imagine it as if I were watching television	2	13.33	1	6.667	1	6.67	6	40	4	26.67
46. I use films and/or videos when teaching	1	6.667	2	13.33	6	40	1	6.667	1	6.667
47. When I think of a class, I imagine where everyone sits.		0	1	6.667	1	6.67	3	20	7	46.67
48. I rearrange the furniture in my classroom to my liking		0	3	20	3	20	3	20	3	20

Legend: 1=never 2= not much 3 = a bit 4 = quite a lot 5= a lot

**Means Plot of Teachers’ Teaching Style based on Multiple Intelligences**



**Figure 2. MI Teaching Styles of Grade 7 and Grade 8 Teachers in MSU-BCHS**

**Learners Learning Styles (LS)**

Learners’ were assessed using three questionnaires namely: VAK learning style assessment, LS Survey adapted from Cohen, Oxford & Chi; and LS Self-Assessment by the Academic Success Services Teaching & Learning Center.

**Table 4 Preferred Learning Styles (LS) of the students in MSU-BCHS base on VAK LS Assessment Questionnaire**

Learning Style	F	%	Mean
visual	51	63.75	0.638
auditory	38	47.5	0.475
kinesthetic	8	10	0.1

**Table 5 Learning Style Survey base on Cohen, Oxford and Chi Questionnaire**

Statement Asked	Learning Style	F	%	Rank
1. How I use my physical senses	<b>Visual</b>	<b>51</b>	<b>63.75</b>	<b>9</b>
	Auditory	26	32.5	17
	Tactile/Kinesthetic	13	16.25	20
2. How I expose myself to learning situations	Extroverted	25	31.25	18
	<b>Introverted</b>	<b>66</b>	<b>82.5</b>	<b>3</b>
3. How I handle possibilities	Random –intuitive	38	47.5	14
	<b>Concrete-sequential</b>	<b>56</b>	<b>70</b>	<b>6</b>
4. How I deal with ambiguity and with deadlines	<b>Closure-oriented</b>	<b>77</b>	<b>96.25</b>	<b>1</b>
	Open	15	18.75	19
5. How I received information	<b>Global</b>	<b>41</b>	<b>51.25</b>	<b>13</b>
	<b>Particular</b>	<b>57</b>	<b>71.25</b>	<b>5</b>
6. How I further process information	Synthesizing	43	53.75	12
	<b>Analytic</b>	<b>52</b>	<b>65</b>	<b>8</b>
7. How I commit material to memory	<b>Sharpener</b>	<b>57</b>	<b>71.25</b>	<b>5</b>
	Leveler	44	55	11
8. How I deal with language rules	<b>Deductive</b>	<b>68</b>	<b>85</b>	<b>2</b>
	Inductive	28	35	16
9. How I deal with multiple inputs	Field-independent	44	55	11
	<b>Field-dependent</b>	<b>53</b>	<b>66.25</b>	<b>7</b>
10. How I deal with response time	Impulsive	35	43.75	15
	<b>Reflective</b>	<b>50</b>	<b>62.5</b>	<b>10</b>
11. How literally I take reality	<b>Metaphoric</b>	<b>60</b>	<b>75</b>	<b>4</b>
	Literal	51	63.75	9

**Table 6 Learning Style Self- Assessment base on Academic Success Services Teaching and Learning Center Questionnaire**

Phrase/Stem Statement	Percentage	
	Yes	No
1. I prefer watching a video to reading	33.75	47.5

2. When I sing along with my CDs or the radio, I know the words to the songs	55	21.25
3. I have athletic ability	51.25	26.25
4. I can picture the setting of a story I am reading	50	30
5. I study better with music in the background	30	47.5
6. I enjoy hands-on learning	62.5	17.5
7. I's rather play sports than watch someone play them	55	20
8. Reading aloud helps me remember	50	28.75
9. I prefer watching someone perform a skill or a task before I actually try it.	58.75	17.5
10. I color coordinate my clothes	37.5	38.75
11. I'm good at rhyming and rapping	17.5	57.5
12. Use phrases like "I've got a handle on it," "I'm up against the wall," or "I have a feeling that..."	38.75	40
13. I need to look at something several times before I understand it	55	15
14. I prefer having instructions give oral directions than written ones	46.25	32.5
15. I have difficulty being still for long periods of time	42.5	33.75
16. I use phrases like "I see what you're saying," "That looks good," or "That's clear to me"	63.75	15
17. I'm good at figuring out how something works	50	30
18. I can understand a taped lecture	45	30
19. It's easy for me to replay scenes from movies in my head	52.5	26.25
20. I enjoy studying foreign languages	55	23.75
21. I would rather conduct my own science experiment than watch someone else do it	33.75	46.25
22. I would rather paint a house than a picture	37.5	38.75
23. I enjoy studying in groups	65	16.25
24. I prefer to have written directions to someone's home	45	35
25. I can look at an object and remember it when I close my eyes	52.5	27.5
26. I have musical ability	46.25	33.75
27. When I study new vocabulary, writing the words several times helps me learn	71.25	8.75
28. I can imagine myself doing something before I actually do it	58.75	23.75
29. I use phrases like "That rings a bell," "I hear you," or "That's sounds good	45	35
30. I enjoy building things and working with tools	61.25	20

Legend:

Items #s 1,4,9,10,13,16,19,24,25,28

= Visual Style

Items #s 2,5,8,11,14,18,20,23,26,29

= Auditory Style

Items #s 3,6,7,12,15,17,21,22,27,30

= Kinesthetic Style

**Table 7 Comparison of Learners LS with the Three Learning Style Inventory**

Learning Style	Learning Self-Assessment		VAK		Learning Style Survey	
	f	%	f	%	Yes	No
					% Ave.	% Ave.
Visual	51	63.75	51	63.75	50.75	27.625
Auditory	26	32.5	38	47.5	45.5	32.625
Kinesthetic	13	16.25	8	10	50.375	28.125

## Discussions

### Teaching Styles of Grade 7 and Grade 8 Teachers in MSU-BCHS

Teaching is an art with a complex and multifaceted activities which usually require teachers to do multiple tasking and goal setting. A famous quotation of teachers mentioned by Parker Palmer is that “*Teachers possess the power to create conditions that can help students learn a great deal – or keep them from learning much at all.* It is the role of teachers to know their students, align the objectives of the lessons to the activities, manage the classroom, provide meaningful students learning, exert appropriate teaching roles, and regularly provide feedback and reflection for revisions.

It is important to note that teachers teaching must dynamics and creative using varied teaching strategies and styles. Based on the findings of this study the teaching styles commonly applied by the grade 7 and grade 8 teachers in MSU-BCHS base on Grasha five types of teaching styles is being a facilitator (mean= 4.88, Table 1) to their students. This type of teaching style is required in the K-12 and 21<sup>st</sup> century teachers. According to the research findings of Ganyaupfu (2013) conducted at the College’s Department of Economic and Business Sciences in South Africa, the most effective teaching is the teacher-student interactive method followed by student-centered method, and the least effective teaching is the teacher-centered approach.

A facilitator teacher is an application of teacher-student interactive method. This type of teaching styles will promote self-learning and help students retain knowledge that leads to self-actualization and develop the critical thinking skills (Gill, 2017). Noting that the teachers possess many teaching styles aside from being a facilitator, they also act with formal authority (mean = 4.64), and sometimes delegator and personal model to their students but many of them lack expertise (Table 1).

The teaching styles of the grade 7 and grade 8 teachers in MSU-BCHS based on Mariani teaching styles reveal that almost half (43.33%) of the teachers are reflective. A reflective teacher has an ability to structure project and study plan, make an explicit goal, use instructional materials systematically, provide students evaluation regularly, let students’ elaborate new information tin their personal ways, motivate students, and work with students in considerable time and method. Aside from being reflective teachers they also tend to use visual verbal (33.33%), kinaesthetic (23.33%), global (28%) and encourage students’ group work (33.33%). Teaching styles such as visual verbal, visual non-verbal, auditory, and kinaesthetic are considered a sensory modalities teaching approach. Grasha (1994) mentioned that variety of teaching styles blended together. It will differ only on how the teachers present themselves in the classroom.

### **Multiple Intelligences Applied by Grade 7 and Grade 8 Teachers TS in MSU-BCHS**

Generally, individual possess multiple intelligences. Quirk (1994) mentioned that teaching styles reflects the mode of questioning and the manner in which the information is given. Teachers could be assertive, suggestive, collaborative and facilitative. Due varied teaching styles, it is important to note also the multiple intelligences of the teachers so that they can handle their teaching using different teaching styles. Bringing desirable changes among learner to achieve a meaningful learning is a prime responsibility of teachers. Teachers must be conversant with multiple teaching strategies that cater the multiple intelligences and individual differences of the learners (Ayeni, 2011).

Results in the study shown in Figure 2 revealed that the teachers teaching styles are mostly enhance and meet the multiple intelligences of the learners. Mostly, they act as naturalist but they also tend to use bodily kinaesthetic, linguistic, interpersonal, logical-mathematical, and visual/spatial. Intrapersonal is the most seldom use followed by musical. Ganyaupfu (2013) pointed that multi-sensory teaching must be used to develop a multi-sensory learning. Combining different multiple intelligences needs varied teaching styles.

### **Preferred Learning Styles of Grade 8 Learners in MSU-BCHS**

Grade 8 learners most preferred learning style is visual, followed by auditory base on learning style self-assessment and VAK learning style (Table 4 and Table 7). In the learning style survey, from Academic Success Services Teaching and Learning Center, auditory is also the most preferred learning style of the grade 8 learners, but their next preferred learning style is kinaesthetic and auditory learning style is their least preferred learning style (Table 7).

Using the Cohen, Oxford and Chi Learning Style Survey, results revealed that the grade 8 learners preferred various learning style depending on the situations of learning. When they use their physical senses, they preferred visual learning style. When they are expose to a learning situation almost all of them are introverted. In terms of handling possibilities, grade 8 learners preferred to use concrete-sequential learning style. In dealing with ambiguity and deadlines they preferred a closure-oriented learning style. They also preferred a particular learning style in receiving information, analytic in the processing of information, and sharpener in committing a material to memory. In dealing with language they preferred to be deductive, and field – dependent in dealing with multiple inputs. In dealing with response to time and taking reality, they preferred to use reflective and metaphoric learning styles respectively (Table 5).

Grade 8 learners rely mostly on visual learning when their physical senses are involved. They learn best through books, charts, pictures, video and other form of images. They also like to do more independent work like reading or studying by their self or learning with computers and other gadgets. Since grade 8 learners preferred concrete-sequential in dealing possibilities, they are more likely to be more present-oriented, and prefer one-step-at-a-time activities. They also wanted to know the direction of their learning at every moment. Being a closure oriented learners, grade 8 learners probably focus carefully on most or all learning tasks, strive to meet deadline, plan ahead for assignments and want explicit directions.

A particular learning style that mostly preferred by grade 8 learners, focus more on details and remember specific information about a topic well. Grade 8 learners can also pull ideas apart and

do well on logical analysis and contrast tasks. They can also notice differences and seek distinctions, and can easily retrieve ideas stored in their memory. In dealing multiple inputs, they can deal it in holistic way. As reflective learners, they can think thing through before taking action. Action follows thought. Grade 8 learners can also learn material effectively through conceptualizing aspects, making material more comprehensible by developing and applying an extended metaphor to it. Each learning style preference offers significant strengths in learning and working (Cohen, Kappler and Chi, 2006). Application may vary according to situation and every learners or individual may have multi-learning style preference.

### **Congruency of Teachers TS to Learners LS**

According to Dunn (1993) as mentioned by Tenedero (1998), curriculum is not the cause of students' failure. When students are taught with methods and approaches responsive to their learning styles strengths then, they can learn any subject matter. Findings of this study revealed that almost all of the teachers teaching styles match the learners learning styles. Mostly used by teachers in teaching approaches are reflective, facilitator, delegators, and visual non-verbal. Whereas, learners learning style strengths varies on the situation of learning which includes reflective, visual, introverted, concrete-sequential, closure-oriented, particular, analytic, sharpener, deductive, field dependent, and metaphoric. These learning styles will be match with teaching approaches when teachers let the students to reflect, and let the learners' o their task by delegating and facilitating them with an aid of visual models. Three stages of learning include input, integration, and output. Retention rate of learners' increases to 90% if they are taught by multi-teaching approaches combining hearing, saying and doing (Tenedero, 1998). Research findings of Tulbure (2012) pointed out the significant relation of teaching strategies and learning style. Flexibility, creativity, and responsibility are the most required by teachers to teach effectively. Study of Kharb, Samanta, Jindal, & Singh (2013) concluded that knowledge on learning styles has implications for both teachers and students. It would not create efficient learning environment only, but it also motivate the students to have academic success.

### **Implication of TS and LS to Students Academic Performance**

Granting that matching the teachers TS to the learners LS is very important, it does not guarantee that it can provide greater achievement of learners. Matching TS and LS is only one of the factors that could improve learners' academic performance. It is important to note that teachers need to examine every learner and his or her unique styles to be as effective mentor as possible. According to Hodkinson (2000) cited by Nzesei (2015), learning styles are minor factors in learning compared to the effects of contextual teaching and cultural sensitivity which plays much larger role in learning among Kenyan.

However, teachers should not ignore the issue on matching their TS to the learners LS. They must consider students' diverse learning styles and design instructional approaches that cater the individual differences and multiple intelligences of the learners. Teachers should help the learners identify their strengths and weaknesses LS. Holistic teaching and learning involves body, mind, emotion, attitudes, and the total personality. Doing this will improve teaching and learning process and at the same time increase the memory retention of the learners.

## CONCLUSION

Teaching and learning should be exciting and meaningful, not isolated and subjective affair. Teachers TS and learners LS has implication to education. Both teachers and learners in MSU-BCHS are practicing a multi-modal approach of teaching and learning respectively. They tend to use more than one TS and LS in the teaching –learning process. Individual teachers and learners have particular strengths and weaknesses which can be improved through trainings and effective instructions. The teachers TS of MSU-BCHS match to their learners LS, and upon observation, the teachers successfully transmit knowledge to the learners through teaching for life activities using multi-approach of instructional methods.

## RECOMMENDATION

Analyzing ones' own TS and LS is very helpful and beneficial to both teachers and learners, aiding them to focus of becoming outstanding teachers and more attentive learners. Discovering TS of teachers and LS of learners allow the teachers and students to determine their personal strength and weaknesses. Knowing those, help the teachers incorporate and match their TS to students LS. As such, this study recommends that teachers will help students identify their LS preference and match their TS accordingly. School administrators must also provide various learning materials, and teachers' trainings or enhancement program that can bring diversity of teaching styles/strategies that caters the learners learning preference, individual differences and multiple intelligences. Lastly, teachers should evaluate their learners LS at the very first meeting of the class so that she/he can match her/his TS accordingly.

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