International Journal of Multidisciplinary Approach and Studies

ISSN NO:: 2348 – 537X

Whole - Brain Learning Approach in Teaching Agriculture: Amidst the Covid 19 Pandemic

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ABSTRACT

This study focused on investigating the Whole Brain Learning (WBL) Approach in Teaching Agriculture to Barcelona NHS of Grade 12 Senior High School Students during the Third Grading of School Year (SY) 2021-2022. A quasi-experimental setup using nonequivalent groups, a pretest-posttest design, and descriptive methods of research was used in this study. The respondents of this study were two (2) groups of Grade 12 senior high school students who were officially enrolled at Barcelona National high School and who were under the instruction of the researcher in the Agriculture subject as of the Third Grading of the School Year 2021-2022.

The students' pretest performance of the control group and experimental group was fair. The pretest revealed no significant difference in the students' performance between the control and experimental groups. The posttest performance of the students in the control group was found to be good in analytical, sequential, and imaginative skills, while they had a very good performance in interpersonal skills. The posttest performance of the students in the experimental group was outstanding. There is a significant difference in the posttest performance of the students between the control and experimental groups. There is a significant pre-post mean gain score for the students between the control and experimental groups.

The whole-brain learning activities are more effective than traditional approaches in enhancing the performance of the students. These activities are important for developing the students' whole brain, thereby maximizing their potential in analytical, sequential, interpersonal, and imaginative skills. Whole-brain teaching emphasizes active learning, in which the learner makes connections that tap both hemispheres. A whole-brained person is more effective in articulating goals and reaching them, which is the key to success in any field.

Teachers shall implement Whole Brain Learning methods in the Agriculture/TLE curriculum for Senior High School. Teachers shall continue to study the effectiveness of Whole Brain Learning in Agriculture/TLE teaching with primary pupils, as well as junior and senior high school students, to validate its effectiveness. School Heads come up and design a Whole Brain Learning training module for teaching Agriculture/TLE for use by all grade levels of Agriculture/TLE teachers.

KEYWORDS: *COVID 19 Pandemic, Teaching Agriculture, Whole Brain Learning Approach*

INTRODUCTION

The COVID-19 pandemic affected a lot of people, destroyed their dreams and aspirations, and greatly affected their careers, investments, businesses, and, most importantly, the education sector. A lot of learners find jobs prematurely to survive.

It is a great challenge as a teacher to still deliver learning and to educate young minds amidst this pandemic and to still hold that education is not just in the four corners of the classroom but also in lifelong challenges and experiences as well as opportunities.

At the turn of this century, the global world is interconnected by a series of webs and technological, visual/spatial/auditory images, and patterns. People, young and old, are bombarded with auditory/visual explosions of information that are so complex and stimulating, not known a century ago. Because of the ongoing changes and innovations in all dimensions of life, schools cannot just remain unmindful of the realities. Indeed, students today report being exposed to visual, spatial, and auditory images from television, home computers, video games, and other technological devices that stimulate their multiple sensory fields (Bracken) [1]. These devices, unless interactive, do not really engage all students in the educational process. So, the young child from birth is given a strong visual/spatial/auditory preference in his/her everyday life. Outer technological devices become exciting learning toys for entertainment. These toys eventually become a normal method to acquire information.

In fact, with the ever-increasing demands for quality and excellence in education, shifts to new ways of teaching are dramatically developing. As Duga-duga [2] noted, schools are to be renovated and redesigned in the new development to give an effective education and make learning a powerful process.

The need to respond to change has become an imperative, for everywhere are visual readouts and arrays responsible for providing people information in order to properly function within stimulus, which is part of a positive, stimulating world of lively, happy experiences. of expressing themselves, different strengths and weaknesses, and be aware of the fact that it is quite uncommon to see pictures being taken and sent from one mobile phone to another (Bracken) [1]). This technology permits us access to visual-auditory and other forms of information never before seen at any time in history. This means that our students and adults are more exposed to the visual/auditory learning process than ever before. It also means that they are somewhat desensitized to the visual stimulations, unless auditory stimulus is a part of it. Students may perceive school as a form of entertainment, making learning an enjoyable experience.

In a world culture that increasingly prioritizes intellectual knowledge for the job market, society rearranged priorities and seeks a balance that also values and includes educating the Innate Authentic Multiple Intelligences, the emotional, creative, spiritual, symbolic, intuitive, imaginative, visual, and kinesthetic original ways of knowing.

Aware of the fact that every classroom is full of students who are different from each other in many different ways, that students come from different social, economic, and cultural backgrounds, and that each one has different areas of interest and different ways of learning, each student also has their own individual intelligence, obviously, which are reasons that they

have to respond to the new demands in teaching in order for the learner to achieve substantial gains and progress.

The 'traditional' classroom tends to treat students as a homogeneous group, with the teacher presenting the same exercises to all students at the same time and expecting the same answers to be produced within similar time limits (Park & Kim) [3]. Students are expected to absorb the knowledge presented by the teacher with a strong emphasis on the use of language and logical-mathematical analysis. Most academic knowledge is presented for learning by means of an extremely limited (or limiting) methodology, and the acquisition of that knowledge is evaluated by means of rote tests, whereby the best grades are assigned to students who demonstrate the greatest ability for memorization.

Many teachers believe that their practices are the "best practices." However, the best practice is not something that solely makes learning exciting. Best practices are those research-based practices that make learning more effective than other day -to-dayroutines (Serdyukov) [4]. The best practice may be something simple, such as ability grouping, or it may be very intricate, like inquiry-based learning. There is no limit to what makes a practice best. The process involves experimenting and analyzing the resulting research and data. As the educational setting changes more and more every year, teachers must strive to accommodate every learner, therefore utilizing best practices in every possible way.

The teacher designs organized activities during teaching to stimulate learning. Learning is the ultimate goal. In the teaching and learning process, teachers and students endeavor to achieve something, and both benefit from it. When the teacher conducts the learning process, he should know appropriate teaching approaches to encourage students to use deep-level approaches to learning. The learning approach of students will strongly influence the quality of their learning (Ertmer & Ottenbreit-Leftwich) [5].

Traditionally, students are made to fit a learning system, which is generally a rigid, systematized curriculum. It does not focus on the whole learner. If the different learners cannot fit in this conformist framework, the individual falls into a maze of negative school experiences. (Schulz) [6].

The reason why, as a result of studies and continuous exploration to improve students' learning, the Whole Brain Learning approach was introduced. This approach provides people, from the advantaged to the homeless, and populations with or without special needs with effective tools to develop their innate Authentic selves. When large numbers of people actualize their Authentic Self, they are aligned with their unique potentials and life direction. They develop their Multiple Intelligence. Together, as each individual emboldens their inner greatness, it forms a critical mass and an evolutionary breakthrough in human consciousness (Schulz) [6].

The proponent held the belief that using appropriate media in its presentation can enhance its effectiveness. Properly selected, its impact on the attention and sustained interest of students is achieved to a point that this wide collection of teaching tools earned the title "sub-strategies." It is not surprising to see these materials, devices, and instruments accumulated in every teacher's storehouse.

The study aimed to investigate the Whole Brain Learning (WBL) Approach in teaching Agriculture Amidst Covid19 Pandemic in Barcelona National High School to 12 Senior High

School Students during the Third Grading of School Year 2021-2022. Specifically, it sought to answer the following questions:

1. What is the pretest performance of the Grade 12 Senior High School students in the control group; and experimental group?
2. Is there a significant difference between the pretest performance of the Grade 12 Senior High School students in the experimental and control group?
3. What is the posttest performance of the Grade 12 Senior High School students in the control group; and experimental group?
4. Is there a significant difference between the posttest performance of the Grade 12 Senior High School students in the experimental and control groups?
5. Is there a significant difference on the pre-post mean gain of the experimental and control groups?

METHODS

In this study, the researcher utilized the descriptive and experimental methods of research. It was descriptive in the sense that it involved the collection of data and thus, provided a descriptive analysis on the quantitative as well as qualitative value of the data obtained through content analysis. And it was experimental insofar as the study used an experiment group and a control group in order to test the hypotheses.

The two types of data in this study were quantitative and qualitative. In this study, qualitative data are presented in the form of words from documents and observations. Having this kind of data serves the following purposes: description as it reveals the nature of situation in the classroom; interpretation as it enables the researcher to gain new insights about a particular phenomenon, develop new concepts or theoretical perspectives about the phenomenon, and discover the problems that exist within the phenomenon; verification as it allows a researcher to test the validity of certain assumptions; and, evaluation as it provides a means through which the researcher can judge the effectiveness of particular innovation.

Quantitative data, on the other hand, are transformed into numbers, tables or charts, which are mathematically examined according to some given standards such as norms, averages, and others. The current Investigation generated quantifiable data from students who are known to be representatives of a target population in order to test hypotheses posed her. The Quasi-Experimental Design 10 was also utilized in the study. This design is similar-to the Pretest-Posttest Control and Experimental Group Design which contains two groups: one received an intervention treatment while the other did not. The design was appropriate in investigating the effectiveness of whole brain learning in teaching science as basis for generating portfolio. During the experiment, the members of the control group were taught using the Traditional Approach in teaching agriculture, while the researcher applies the Whole Brain Learning (WBL) Approach in teaching agriculture in the experimental group.

Students in enrolled the subject Agriculture 12 were utilized as the respondents of the study. Table 2 shows the distribution of respondents or the study. As presented in the table, 40% or 50% Grade Twelve section Maabtik students composed the experimental group while 40% or 50% Grade Twelve section Makugihon composed the control group. These students were officially enrolled as regular grade twelve.

The researcher randomly assigned the groups by tossing a coin. The head represented the students in Grade Twelve Maabtik and the tail represented the students on Grade Twelve Makugihon. After the coin was tossed, Grade Twelve Maabtik became the experimental group while Grade Twelve Makugihon became the control group.

Distribution of Respondents of the Study

Group	Number of Students Enrolled	Percentage
Grade 12 Section Maabtik (Experimental)	40	50
Grade 12 Section Makugihon (Control)	40	50
Total	80	100

Traditional way of teaching is a method where there is a thorough lecture in the class. It is the most common way of teaching in this school. It is the process emphasized the different measurement of teaching in every subject area. Within this teaching, everything was done step by step following approaches, methods and techniques to be done clearly. This was enhanced by the teacher to impart the knowledge among the students, Methods and approaches lead a very systematic way of teaching and learning procedure because both the performer and the learner are guided accordingly and evidently by following any steps of methods and approaches. Everything can be measured creatively and artistically by injecting possible strategy from motivation down to application.

There was no repetition of strategy along in every step-in teaching so that everything will go smoothly leading to a meaningful teaching and learning. However, performers need to be choosy, careful and tactful in imparting knowledge to the learners so that the learners will be guided to cope up the knowledge by the performers. Thus, everything will be achieved according to the targets for, both the learners and the performers.

With the students' poor performance in Agriculture/TLE as a whole at Barcelona National High School during the National Achievement Test for the past 3 school years. Clearly, it is not performing at all. During the S.Y. 2010-2011, the MPS was 52.57% and increased to 55.71% in the S.Y. 2011-2012 and to 73.17 in the S.Y. 2012-2013. Obviously, the MPS performance of the students of Barcelona NHS during the National Achievement Test for the past three school years did not reach 75%.

Performance of students in the subject is unquestionably in a deplorable state. Today, Agriculture/TLE continues to be viewed as the most difficult subject among the students in Barcelona National High School, and as always, the improvement of students' performance on the subject is a challenge to most Agriculture/TLE teachers; this is the reason the study was conducted.

A 50-item teacher-made test was developed to measure students' performance in Agriculture 12. In this test, students in both control and experimental groups were presented with 50 questions or instructions called stems. They were directed to select the correct answer or response from the list of answer options. The test consisted of questions on the topics discussed.

The number of items was dependent on the number of contact hours indulged in teaching each topic, and construction of the instrument followed the four-quadrant model of cognitive preferences.

To assure content-related validity of the test, the researcher prepared a Table of Specification (TOS) in Agriculture/TLE utilizing the K to 12 Curriculum Guide in Agriculture/TLE to make certain that all major aspects are covered by the test items and in correct proportions. In constructing the teacher-made multiple-choice test, the researcher followed the TOS shown in Appendix B.

To make sure that the test items were of good quality, their validity and reliability were carefully taken into consideration. To assure content-related validity, the researcher constructed a Table of Specification (TOS) in Agriculture/TLE utilizing the four-quadrant model of cognitive preferences to make certain that all major aspects are covered by the test items and in correct proportions.

In constructing the teacher-made multiple-choice tests, the researcher followed the TOS. The test was submitted with the TOS to experts for comments and/or recommendations. Their suggestions and corrections were eventually incorporated.

Aside from the validity of the instrument, its reliability was also tested. It was done by administering the test to 37 students of Barcelona NHS who were not part of the study. The Item Analysis U-L Method was utilized in testing the reliability.

An item analysis was performed to assess the internal consistency and effectiveness of the questionnaire to test the learning competencies. This procedure involved an analysis of each item on the test.

Weighted Mean was used to describe the performance of the Grade Twelve Senior High School students belonging to the control and experimental groups during the pretest and posttest. A t-test was used to determine the significant difference between the hypothetical mean (1-1M) score and the actual mean (AM) score of the student.

RESULTS AND DISCUSSIONS

Pretest Performance of Control Group

Table 1 presents the pretest performance of Barcelona NHS Grade Twelve Senior High School students in the control group. There were five topics which were included in the investigation, namely:

Select healthy stocks and suitable housing, Set-up cage equipment, Feed chicken, Grow and Harvest Chicken in the four types of questions in the Whole Brain Learning Approach (Analytical, Sequential, Interpersonal, and Imaginative). The level of expectation (HM) was set at 75% of the total number of items in each topic: 18, 3, 7.5 and 9, respectively.

Table 1. Pretest Performance Profile of the Students in the Control Group

Whole Brain	No. of	Hypothetical Mean	Actual Mean	Description
Analytical	24	18	5.30	Fair
Sequential	4	3	0.975	Fair
Interpersonal	10	7.5	2.73	Fair
Imaginative	12	9	2.61	Fair
Total	50	37.5	11.615	Fair

Note:

Description	24 pt scale	4 pt scale	10 pt scale	12 pt scale	50 pt scale
Outstanding	19.20-24.00	3.21-4.00	8.01-10.00	9.61-12.00	40.01-50.00
Very Good	14.4119.20	2.41-3.20	6.01-8.00	7.21-9.60	30.01-40.00
Good	9.61-14.40	1.61-2.40	4.01-6.00	4.81-7.20	20.01-30.00
Fair	4.81-9.60	0.81-1.60	2.01-4.00	2.41-4.80	10.01-20.00
Poor	0.00-4.80	0.00-0.80	0.00-2.00	0.00-4.40	0.00-10.00

As shown, the control group obtained the highest mean in analytical skills. Such performance was described as fair. With regard to sequential skills, the control group obtained a mean of 0.975, described as fair, while interpersonal got an actual mean of 2.73 and imaginative skills had an average of 2.61, described still as fair. The total actual mean score of the students in the control group was 11.615 or fair.

The result showed that the students in the control group had little knowledge of the items that were slanted to point out the four quadrants of the brain. Their level of knowledge during the pretest was low considering the fact that the lesson was not yet formally presented to them during this time.

Looking at the individual mean scores of the students would tell that they performed fairly in all the areas under the four-quadrant brain. Most decisions benefit from a thought process that includes the review of multiple options and perspectives. The scores were generally very far from the expected performance of 75% of the total number of items per category. This shows the very minimal knowledge and skill of the students in the four aspects of the whole brain. Their performance did not even reach 1/3 of the expected 75%. This could be attributed to the amount of stored knowledge of the students from their lower years. If they have not grasped much of the lessons, they have not brought with them enough knowledge and skills.

Quadrant A thinkers look at information on the actual computation of a dihybrid cross in genetics using a Punnett square. Quadrant B thinkers read and identify the steps on how to compute. Quadrant C thinkers test to solve a problem using a Punnett square. And Quadrant D focuses on the phenotypes of the resulting offspring in a cross.

Every problem situation can benefit from a Quadrant A review of the data and facts, as well as an analysis of the real problem at hand; the Quadrant D "big-picture" context and possible

creative ideas; the Quadrant C viewpoint of the "customer" of the problem and how the problem affects others; and the Quadrant B step-by-step process to solve the problem and implement the solution.

Consequently, in terms of performance, most teams were formed to make the most of the differences among team members. But very often those differences were in the way of the team living up to its potential. Whole Brain Thinking can help a team to acknowledge the differences among team members and then use those differences to make the most of the ideas of each team member. In addition, once a team knows its preferences, it can use that knowledge to enhance its communication with other teams and work groups that may have thinking preferences that are quite different.

Finally, the objective of most communication is to convey an idea, transfer information, or persuade someone. How many times have you experienced the frustration of delivering a message only to realize that the other person "just did not get it"? In order to communicate effectively, it's important to understand the "language" and mindset of the person(s) one is communicating with. A diagnosis of the thinking preferences of the audience can provide the critical planning information you need to tailor your language and presentation to the audience. When the audience's preferences are in doubt, taking a Whole Brain approach to communication ensures that you have covered all the "languages." This reduces the possibility of miscommunication and improves the chance that your message will be successfully received by the audience.

Table 2 presents the pretest performance profile of the students in the experimental group. The table shows that the actual means obtained by the students were 6.80, 1.02, 3.06, and 3.22 respectively, with an overall actual mean of 14.11 all described as fair. This means that the students in the experimental group have fair performance and scores in analytical, sequential, interpersonal, and imaginative questions.

This indicate that the quadrant brain has not been fully aware of the different topics that the teacher is about to tackle.

Table 2. Pretest Performance Profile of the Students in the Experimental Group

Whole Brain	No. of Items	Hypothetical Mean	Actual Mean	Description
Analytical	24	18	6.80	Fair
Sequential	4	3	1.025	Fair
Interpersonal	10	7.5	3.0625	Fair
Imaginative	12	9	3.225	Fair
Total	50	37.5	14.1125	Fair

Clearly, the quadrant brain was unfamiliar with the topics; thus, the analytical/quantitative skills of the students were not yet motivated. The analytical brain is very important in a person since its function is slated towards the numerical abilities of the person. The analytical skill of a person resides at the upper left part of the brain.

In cognitive psychology, sequence learning is inherent to human ability because it is an integrated part of conscious and non-conscious learning as well as activities. Sequences of information or sequences of actions are used in various everyday tasks: "from sequencing sounds in speech, to sequencing movements in typing or playing instruments, to sequencing actions in driving an automobile."

Quadrant A (analytical skill) is indulged with thinking analytically. It does not engage with anything that is not "explainable." A relies on figures and facts. On this basis, A feels secure to act. A generally perceives "psychobabble" as negative but accepts it if based on unequivocal research results.

Analytical skill is the ability to visualize, articulate, and solve both complex and uncomplicated problems and concepts and make decisions that are sensible and based on available information. Such skills include demonstration of the ability to apply logical thinking to gathering and analyzing information, designing and testing solutions to problems, and formulating plans.

It is important to note that security and order are important for quadrant B (sequential skill), which therefore avoids risks. B is cautious and puts quite a lot of effort into achieving clarity about a particular situation.

Based on cognitive psychology, sequence learning is inherent to human ability because it is an integrated part of conscious and non-conscious learning as well as activities. Sequences of information or sequences of actions are used in various everyday tasks: "from sequencing sounds in speech, to sequencing movements in typing or playing instruments, to sequencing actions in driving an automobile. Sequence learning can be used to study skill acquisition and in studies of various groups ranging from neuropsychological patients to infants.

On the other hand, interpersonal skills are the life skills that one uses every day. It is used to convey ideas and use proper language so that one could be understood by the other person. Interpersonal communication is then the key idea in establishing interpersonal skills. Without proper communication, one could not facilitate good interpersonal relationships with another.

For Quadrant C (interpersonal skill) is indulged with communicative. C cultivates friendships, might play music with others, likes going out, enjoys meeting new people and signs contracts because the sales representative is nice - but not before consulting with friends.

Teachers' experiences with Science not only support their own understanding but also strengthen their facilitation of children's experiences. As they work with children, they make connections between their own and children's experiences with the same phenomena. Because they can now relate to what children are observing and doing, and also understand the science at the heart of children's experiences, they are better able to guide children's learning by engaging them in conversations that help children articulate their own ideas.

Finally, there are the imaginative skills. These are spatial skills that are used to get into creative ideas that could basically lure oneself and others. Imaginative skills use imagination

and visualization in looking at things. These affect one's personality and manifestations and in co-existing with other individuals.

Quadrant D (imaginative skill) is indulged with constantly has fascinating ideas, which are pursued without shying away from any risks - yet D is less concerned with the implementation in everyday life. D tends to follow spontaneous associations rather than formal logic. When shopping, D follows his / her creative impulse. Imagination makes it possible to experience a whole world inside the mind. It gives the ability to look at any situation from a different point of view, and to mentally explore the past and the future.

The fact is humans have this model available in the brain in the form of a mixture of the four "quadrants". And so, all are consequently active while thinking, acting and learning. But each is revealed to a different degree. Because the goal is to reach young people, pedagogues face a special challenge and opportunity in determining their own thinking style dominance.

Looking at the scores in each category would tell that the students' scores in the pretest were very much lower than the expected 75% performance. This means that their performance was really very low. The low level of performance of the students may indicate a low retention factor. They did not retain most of the lesson given to them in their previous years, thus, they were getting low scores.

Table 3 presents test of difference between the control and experimental group on their pretest performance. The data on the table shows the computed t-values of 0.171, 0.135, 0.687 and 0.131, respectively, which were all not significant at 0.05 level since these values did not exceed the critical value of 1.6641 at 0.05 level of significance with 78 degrees of freedom. This leads to the non-rejection of the null hypothesis. The result shows that the students' performance in the pretest were similar as to analytical, sequential, interpersonal and imaginative items of the test.

Table 3. Test of Difference Between the Control and Experimental Groups on their Pretest Performance

Areas	Control		Experimental		t-value
	Actual Mean	SD	Actual Mean	SD	
Analytical	5.30	0.3281	6.80	0.5883	0.171 ^{ns}
Sequential	0.975	0.1215	1.025	0.6555	0. 135 ^{ns}
Interpersonal	2.73	0.3651	3.0625	0.5289	0.687 ^{ns}
Imaginative	2.61	0.279	3.225	0.3565	0.131 ^{ns}

This indicates that the performance of the students in the pretest for both the control and experimental group were generally comparable. Their scores were not really far from each other. This would mean further that the level of learning obtained by the students in one group do not differ from that of the other group. Hence, they were more or less homogeneous.

Tables 4 and 5 show the posttest performance of the students on the control and experimental groups. These were obtained after the students were exposed to the different interventions: The Whole Brain Learning Approach was applied in the experimental group while the traditional method in the control group.

Table 4. Posttest Performance Profile of the Students in the Control Group

Whole Brain	No. of Items	Hypothetical Mean	Actual Mean	Description
Analytical	24	18	13.40	Good
Sequential	4	3	2.0	Good
Interpersonal	10	7.5	7.20	Very Good
Imaginative	12	9	6.81	Good
Total	50	37.5	29.41	Good

As revealed in Table 4, the students who were exposed to the traditional teaching obtained a mean score of 13.40 in the analytical questions, with descriptive equivalence of good. This means that the students' performance improved from fair to good. It shows that analytical skills were a little bit developed among the students in the control group with the teacher employing the traditional way of teaching.

Further, more the sequential skills obtained a mean of 2.00 with a description of good. This is reflected in Table 6. This shows an increase in the performance of the students from the pretest to the posttest. This proved that there was a little improvement of the students' performance after the intervention in this case, the traditional teaching method.

As to interpersonal skills, there was a great improvement on the part of the students' performance from the pretest to the posttest (Table 6), This was shown by the fair performance in the pretest and the very good performance in the posttest. Along this light, the student's improvements were quite significant.

Finally, on imaginative skills, students' performance was still improving a little from fair to good and on the overall result, the performance of the students was from fair to good.

Table 5 presents the posttest performance of the students in the experimental group. As shown, the actual means obtained were 21.00 for analytical skills, 3.775 for sequential, 8.85 for interpersonal and 10.40 for imaginative with corresponding descriptions of outstanding. This means that the students develop their skills in Agriculture/TLE after they were exposed to the Whole Brain Learning Approach, the four quadrants of the brain were developed using the whole brain learning. This shows that the traditional way of teaching is quite effective but it has not shown significant improvements on the students' scores from pretest to posttest.

Table 5. Posttest Performance Profile of the Students in the Experimental Group

Whole Brain	No. of Items	Hypothetical Mean	Actual Mean	Description
Analytical	24	18	21.00	Outstanding
Sequential	4	3	3.775	Outstanding
Interpersonal	10	7.5	8.85	Outstanding
Imaginative	12	9	10.40	Outstanding
Total	50	37.5	44.025	Outstanding

The concept of the whole brain is to develop the four quadrants of the brain for it to be able to function effectively. Having all the quadrants functioning properly allows the child to freely move from one expertise to another and from one discipline to another in the future.

Table 6. Test of Difference Between the Control and Experimental Group on their Posttest Performance

Areas	**Control**		**Experimental**		
	Actual Mean	**SD**	**Actual Mean**	**SD**	**t-value**
Analytical	13.40	0.527	21.00	0.3232	6.39*
Sequential	2.0	0.3326	3.775	0.5726	7.77*
Interpersonal	7.20	0.2255	8.85	0.3657	4.22*
Imaginative	6.81	0.3671	10.40	0.3338	5.48*

Table 6 presents the test of difference on the posttest performance between the control and experimental group. This indicates that the good performance of the control group during the posttest. It obtained actual means of 13.40, 2.00, 7.20 and 6.81 while the experimental group of students obtained actual means of 21.00, 3.775, 8.85 and 10.40, which were all described as outstanding. The results on the table shows t-values of 6.39, 7.77, 4.22 and 5.48 which were all greater than 1,664 at 0.05 level of significance which leads to the rejection of the null hypothesis. Thus, there was a significant difference on the posttest performance between the control and experimental group of students. It is clear that the students in the experimental group were doing well during the posttest. They excelled in the posttest compared to the students in the control group.

The difference on the performance of the students could be attributed to the fact that they are taught differently and therefore their level of acquisition of knowledge and skills are also different. Further, in reality, different people could also have different timing and volume of acquisition of knowledge and skills. It might have happened that there are really students who have a short grasp of things because their intelligences fall on a different aspect and not on academics.

Table 7. Test of Difference on the Mean Gain Scores Between the Control and Experimental Groups

Groups	Mean Gain	St. Dev	SE Mean	t-value	p-value
Control	4.45	2.89	1.4	10.81	0.011
Experimental	7.48	4.85	2.4		

Table 7 shows the test of difference on the mean gain scores between the control and experimental group of students. The data on the table showed a computed t-value of 10.81 which is greater than the critical value of 1.664 at 0.05 level of significance. This leads to the rejection of the null hypothesis. There is therefore a significant difference on the mean gain scores between the control and experimental groups. This means that students learn better with whole brain learning during in the posttest as compared to the students taught in the traditional method approach. The whole brain learning activities given to the students were useful in developing a better performance. Herrmann [7] developed the theory of brain dominance which suggested that the dominant mode of thinking preference. It is rooted in the genetic makeup affecting cognitive capabilities. One responds with his strongest abilities, creating a positive feedback system that strengthens those abilities and leads to a powerful preference for one style and a discomfort for other modes of thinking.

Amerson [8] emphasized that it is essential to use creativity to design cognitive strategies that appeal to students' learning preferences. This is necessary for educator to implement the Theory of Multiple Intelligence Learning in the classroom. Specific cognitive strategies that address the learning preferences of each intelligences should be delivered.

CONCLUSIONS AND RECOMMENDATIONS

The whole brain learning activities are effective than traditional approach in enhancing the performance of the students. These activities are important for the development of the whole brain of the students will be developed thereby maximizing the potentialities of the students from the analytical, sequential, interpersonal and imaginative skills. Whole-brain teaching emphasizes active learning, in which the learner makes connections that tap both hemispheres. A whole-brained person in the long run, is more effective in articulating goals and reaching them, which is the key to success in any field.

Teachers shall employ Whole Brain Learning Teaching Agriculture/TLE in Senior high School. Teachers shall continue to study on the effectiveness of the Whole Brain Learning in Agriculture/TLE teaching with primary pupils, as well as to junior and senior high school student to validate its effectiveness. School Heads come up and design a Whole Brain Learning training module for teaching Agriculture/TLE for use by all grade levels Agriculture/TLE teachers.

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