

## Effects of the use of systematic approach on students' understanding of tonal values in tertiary institutions

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### ABSTRACT

*The study investigated the effect of systematic approach on students' understanding of tonal values in painting in tertiary institutions. The study was designed to if syllabus B students (students without prior knowledge of art) will perform comparably to syllabus A (students that have prior knowledge of Fine Arts) in the correct application of tonal values. One research question and one hypothesis were put forward for the study. The design of this study was quasi-experimental and the non-equivalent control group design was used. Two intact classes were used, eight subjects in Syllabus B, and six in Syllabus A. The instrument for data collection was the painting tasks administered to the subjects. The results showed that the null hypothesis was retained implying that the performance of the two groups was comparable. The approach therefore, was not only effective, but improved beginning students understanding of painting.*

### KEYWORDS

*Effects, systematic approach, students' understanding, tonal values, tertiary institutions*

### RÉSUMÉ

*L'étude a examiné l'effet d'une approche systématique sur la compréhension des élèves des valeurs tonales en peinture dans l'enseignement supérieur. L'étude a été conçue pour tester si les étudiants du programme B (étudiants sans connaissances préalables de l'art) se comporteront de manière comparable aux étudiants du programme A (étudiants qui ont une connaissance préalable des Beaux-Arts) au sujet de l'application correcte des valeurs tonales. Une question de recherche et une hypothèse ont été étudiées. La méthode adoptée à cette étude était quasi expérimentale et le modèle avec un groupe témoin non équivalent a été utilisé. Deux classes ont été utilisés, huit sujets dans le programme B et six dans le programme A. L'instrument de collection des données administré aux sujets a été une série des tâches de peinture. Les résultats montrent que l'hypothèse nulle est maintenue, ce qui implique que la performance des deux groupes était comparable. L'approche donc n'était pas seulement efficace, mais elle peut améliorer la bonne compréhension de la peinture pour les étudiants débutants.*

### MOTS-CLÉS

*Application, systématique, méthode, étudiants, compréhension, valeurs totale, Enseignement Supérieur*

## THEORETICAL FRAMEWORK

### *The nature of painting*

Painting is the creative application of pigments on a surface or ground. There are different types of surfaces which the painter can use for painting. It could be paper, hardboard, canvas or wall. The painter's application of pigments (paint) on the surfaces is not just a mechanical process but expresses his mood, feelings and ideas about his subject matter and his environment. His colours are either opaque or transparent in nature, they are either water-based or oil-based. Water colour, poster paint (Gouache) and acrylic paints are examples of water-based pigments, while oil colours are oil-based. (Wangboje, 1985). Broad areas of Painting in tertiary institutions include: Composition (pictorial); Mixed-Media; Life-Painting; Materials/Methods and Visual Aesthetics (Imonikebe, 2012).

### *Elements and principles of art as a premise for execution of painting*

Elements of art are generally referred to as elements of design, while principles of art is synonymous with principles of organization. The elements of design are: Line, Texture, colour, value (light and dark) form, space, while the principles of art include; Balance, Symmetrical/ Asymmetrical, Variety, Rhythm, Proportion, Repetition and Dominance. The creative use of these elements and principles of art results in the production of paintings. The artist can skillfully apply these elements and principles in composing pictures. These elements and principles which are universal and foundational are presented as essence of art making (Wangboje 1985; Gude, 2004).

### *The concept of colour and tonal values in painting*

Colour is a major element of design. It can be defined simply as the selective reflection of light. According to the principles of colour theory, colour has the following characteristics; Hue; Value; Tone and Intensity (Laurie, 2002; Parramon, 2007). Colour has been selected for investigation as a result of its usefulness and relevance to the painter. The painter needs to have an in-depth understanding of colour in order to excel, as colour is the medium of his expression. Primary, secondary and tertiary colours are therefore fundamental to painting.

### *What are tonal values?*

Blackman in Imonikebe (2012) noted that tonal values are what makes a painting 'talk'. Its absence spells a poor reputation for success bearing in mind that mere application of pigments on a surface does not require creativity. Correct application of tonal values thus is a factor that derives from tone and value; Tonal value is "the relative lightness and darkness given to a surface or an area by the amount of light reflected from it. It is also regarded as "a measure of where a particular colour lies along the lightness-darkness axis" (Orvirk, Stinson & Wigg, 1983, p. 20; Imonikebe, 2012) Correct application of tonal values therefore is the level of compliance with the concept of tonal values. In other words, values must be correct according to model of Laurie's (2002) and Parramon (2007).

The use of systematic approach to instruction has been extensively discussed in the literature. Manifold et al. (2008) and their use of strand explicated systematic instruction. Bailer (2007) developed five stages where drawing, painting, clay work and collage were simultaneously organized. Wilson (1973) carried out a study using systematic approach. Similarly, Adebolujo (2006), advocated systematic methodology for art teaching.

***The problem***

The problem of this study is: What effect would the use of systematic approach have on students' understanding of tonal values. Would the use of systematic approach improve beginning students' understanding of painting? Would Syllabus B, students perform comparably to Syllabus A in the correct application of tonal values?

***Purpose of study***

The purpose of this study is to determine the effect of the use of systematic approach for teaching and learning of tonal values. The study was expected to find out if the instructional approach will improve beginning students' understanding of tonal values in painting. Furthermore, it will reveal if the performance of students with no prior knowledge of Visual Arts will be comparable to those with prior knowledge of Visual Arts.

**METHODOLOGICAL FRAMEWORK*****Research design***

The design of this study is quasi-experimental. The Non-equivalent Control Group Design was chosen for the study.

***Hypothesis***

One research question was raised while the following hypothesis was formulated to guide the study: There is a significant difference in the performance of students in Syllabus A and B in the correct application of tonal values.

***Population***

All Bachelor of Arts-B.A. Fine Arts (Part-time students) at the one hundred level (100L) Fine/Applied, Arts Department, University of Benin, Benin City, Nigeria, formed the population (these are year one, Part-time students admitted to pursue the Bachelor of Arts degree in Fine and Applied Arts)

The two intact classes of 100 level (year one) consisting of all eight (8) B.A. Part-time Syllabus B (100L) and six (6) B.A. Part-time Syllabus A (100L) participated in the study (Syllabus A students belong to the group that have prior knowledge of Fine Arts. In other words, they must have obtained a credit pass at the Secondary qualifying examinations such as the West African School Certificate (WASC). Syllabus B students do not require prior knowledge to get admitted).

***Instrument for data collection***

The Pre-test and Post-test painting tasks drawn from the hypothesized colour device (Correct Application of Tonal Values) and the instructional package were used to generate the data for the study. The instrument was validated by three experienced lecturers in the Department of Fine/Applied Arts, University of Benin. Benin City, Nigeria.

***Method of data analysis***

The average of the scores generated was obtained and the Mann-Whitney U test was used to analyse the data.

***Procedure***

A pre-test was administered to the two groups (Syllabus A & B). The groups were taught separately, precisely, group A (Syllabus A) was taught with the traditional approach for a period of not less than 12 contact hours, thereafter, the group was post-tested. In this case, subjects were engaged with a painting task (still-life) painting for duration of six (6) hours. The second group, (Syllabus B) was taught with the systematic approach for a period of not less than 12 contact hours, thereafter, the subjects in syllabus B were post-tested. The same task that was administered to Group A was given this group for a duration of six hours (6 hours). The completed post-test (task) was eventually collected and assessed by three independent scorers.

The Systematic approach is made up of five stages:

- Stage I: Colour appreciation and painting skills acquisition.
- Stage II: Activity and assignment of colour to groups.
- Stage III: Treatment of colour.
- Stage IV: Differentiation of values.
- Stage V: Application of colour to specified surfaces.

*Stage I: Colour Appreciation and Painting Skills Acquisition.*

- Plates I, II & III form the core of Colour Appreciation and Painting Skills Acquisition.
- Plate I is colour wheel, while plate II explains Neutral colours and colour harmony.

*Stage II: Activity and Assignment of colour to Groups.*

- Plate IV depicts three colours assigned to three groups.
- The package provides that activity begins with three tones.

*Stage III: Treatment of colours*

- Plates V & VI depict Treatment of Colour stage.
- The upper segment of Plate V presents the introduction of the dark tone to each of the three groups. Conversely, the lower segment Plate V presents the introduction of the light tone to each of the three groups.
- Plate VI depicts four tones from Dark to lightest in the upper segment of the plate.
- The lower segment depicts from Darkest to Light.

*Stage IV: Differentiation of Values.*

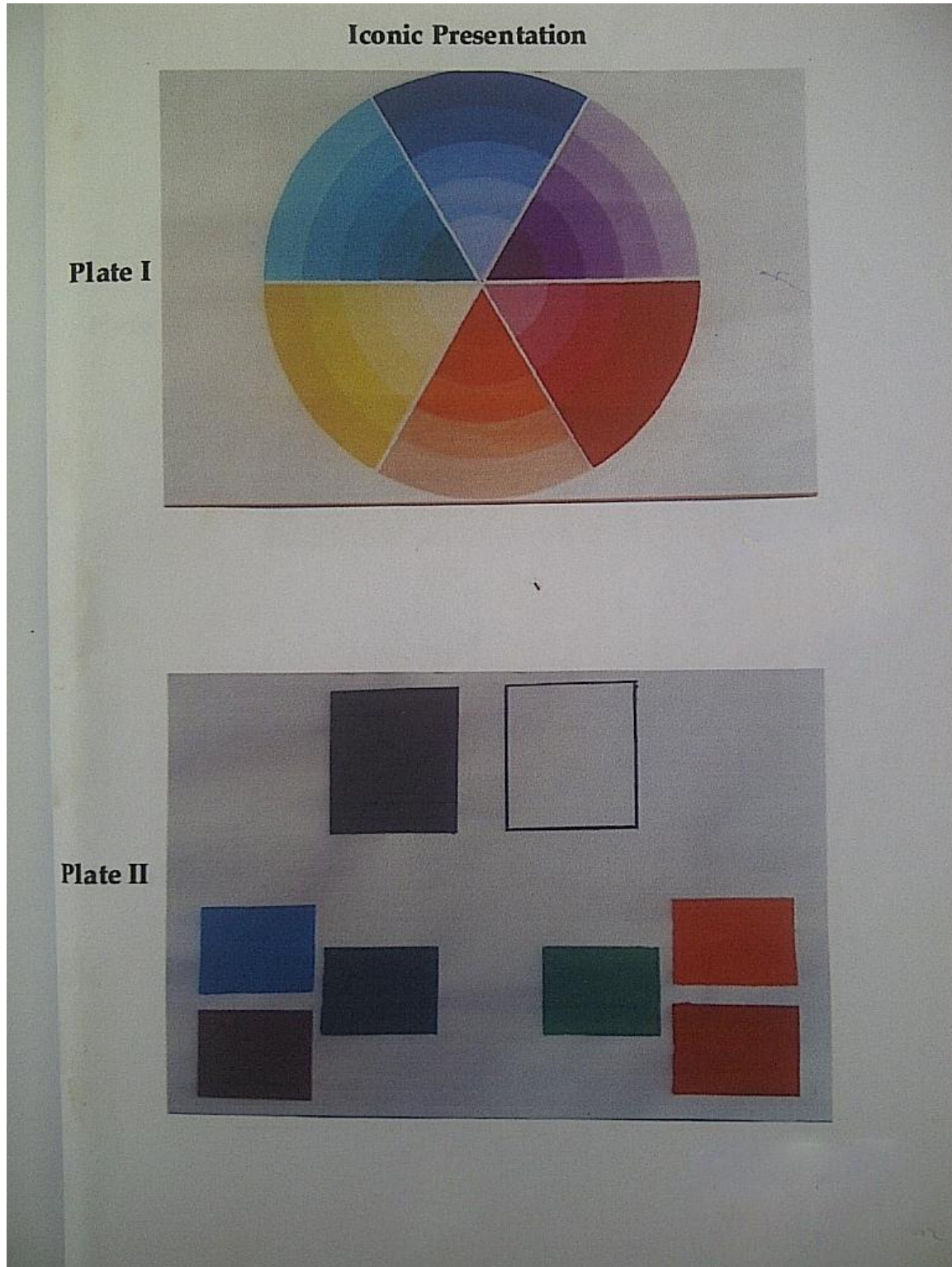
Plate VII presents the Differentiation of Values Stage. The values are differentiated from Darkest to Lightest.

*Stage V: Application of Colour to Specified Surfaces*

Plate VIII presents the Application of Colour stage in four steps:

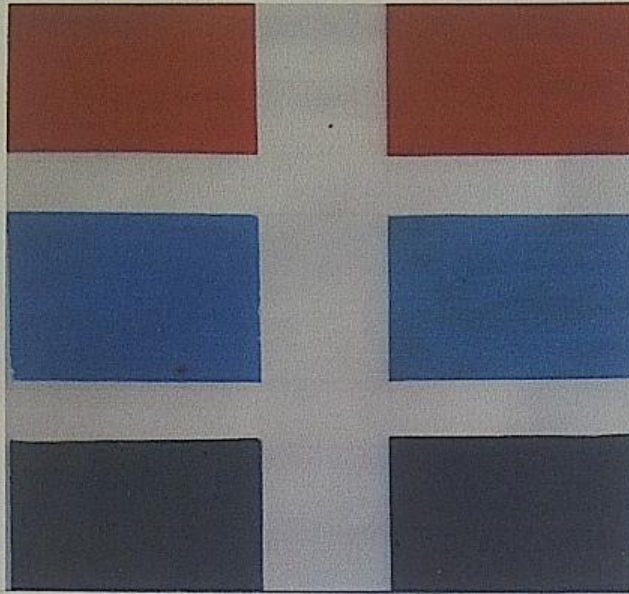
- Step I, one tone application.
- Step. II: Three tones application.
- Step. III: Four tones application.
- Step. IV: Five tones application.

**Pictorial (Iconic) Presentation of the five stages of the Systematic Approach**  
(visual presentation)

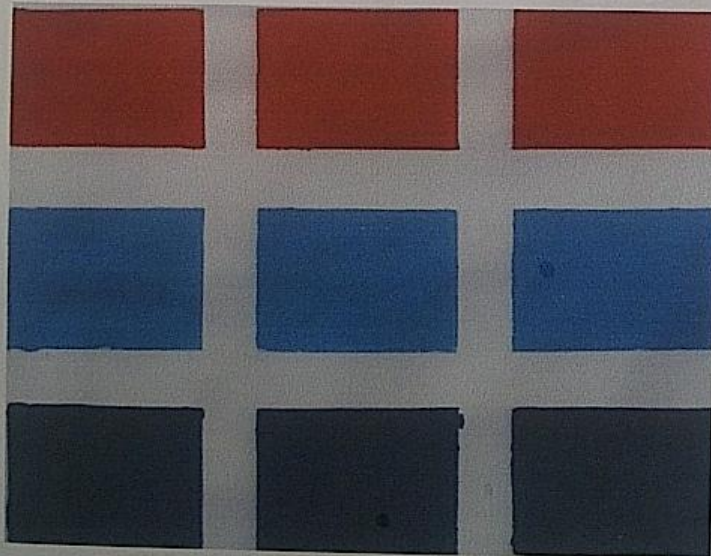




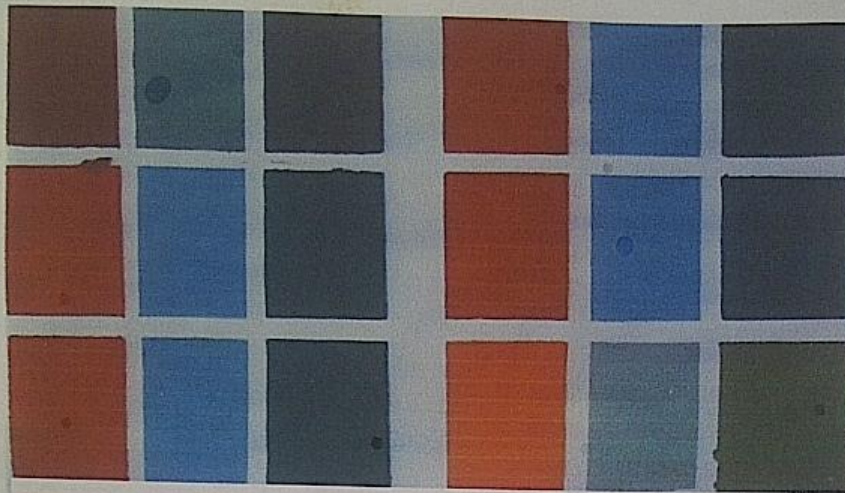
**Plate III**



**Plate IV**



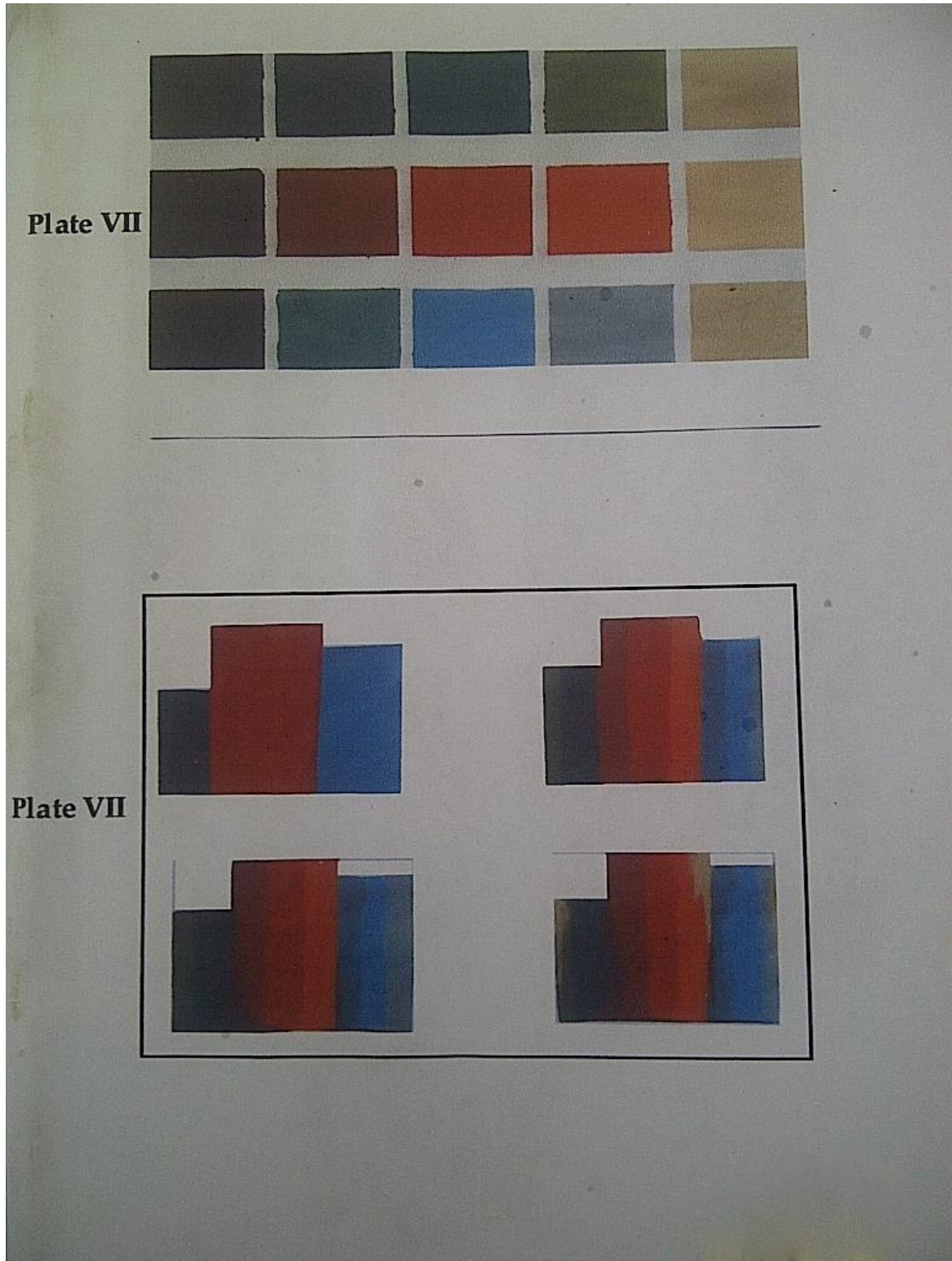
**Plate V**



**Plate VI**







## RESULTS AND DISCUSSION

The Hypothesis formulated for this study sought to find out if there was significant difference in the performance of students in Syllabus A and B in the correct application of tonal values. The



Mann-Whitney U test was used to analyse the data. The Mean Rank of the pre-test and post-test for the two groups were also calculated. Table 1 summarizes the relevant portions of the data.

**Table 1**  
*Pre-Test: Correct Application of Tonal Values*

Groups	Variable	N	Mean Ranks	SD	Calc. U	Table Value	Alpha Level
Syllabus A	Tonal Values	6	44.5	15.9	17	8	0.05
Syllabus B	Tonal Values	8	34.5	40.8			

$p > 0.05$

**Table 2**  
*Post-Test: Correct Application of Tonal Values.*

Groups	Variable	N	Mean Ranks	SD	Calc. U.	Table Value	Alpha Level
Syllabus A	Tonal Values	6	49	47.7	14	8	0.05
Syllabus B	Tonal Values	8	56.6	89.8			

$p > 0.05$

Table 1 shows a pre-test administered since one of the two groups had a prior knowledge of Fine Arts. Since the pre-test revealed that there was no significant difference between the two groups, only the post-test scores were used to analyse the data. However, considering the Mean Ranks, the performance of Syllabus A, (group with prior knowledge of Fine Arts) was higher than that of Syllabus B (the Mean Rank of Syllabus A was 44.5 while that of Syllabus B, was 35.5).

Results in Table 2 show that the calculated U value of the Post-test is 14 with a Table value of 8. Consequently, the null hypothesis which stated that there is no significant difference in the performance of students in Syllabus A and B in the correct application of tonal values is accepted. The implication is that, the difference observed in the correct application of tonal values amongst syllabus A and B students is not significant. Although, the Mean Rank of the group without prior knowledge was higher, it was not found to be significant (the Mean Ranks of Syllabus A and B were 49 and 56.6 respectively). In other words, the performance of students who had no prior knowledge of Visual Arts was not different from that of Syllabus A after they had been taught with systematic approach.

The finding implied that the two groups performed closely. This finding supports the place of training in the successful maneuvering of the creative rungs of the artistic ladder. The contemporarists according to Lowenfeld and Read as reported by Mbahi (1992) have argued in favour of formal training irrespective of natural endowment of the learner. Blackman in Imonikebe (2012) has asserted that tonal values are what make a painting “talk” not colour per se. He argued that no matter how much colour is manipulated by the painter in his painting, once, the values are incorrect, it will make no difference. The teachers’ creative search for a functional methodology is stressed by Imonikebe (2005). He noted that a sound knowledge of the psychology of the teacher and the learner makes for manageability of studio problems. Imonikebe went further to state that it is such a teacher who could solve problems associated with teaching and learning in his area of specialty. As asserted by Imonikebe (2003), achieving success in painting in tertiary institutions in Edo and Delta States; Painting departments require a calibre of teachers who have formal training

in the art of teaching. He noted that only such art teachers will be able to motivate the learner through creative methodology, expertise and hard work.

The idea of compartmentalization usually employed in the systematic approach was advocated by Manifold et al. (2008) and has proved effective in her individualized instruction and the use of strands in learning art and art making. The approach which appears as clusters of ideas with steps supports the claim for systematic approach. Imonikebe (2004) also posited that the idea of demonstration of concepts to create a relaxed environment has over time proved a vital ingredient in studio interaction. This also, is one attribute of systematic approach.

Based on the finding, it was concluded that the systematic approach was not only effective, but improved beginning students understanding of painting (Imonikebe, 2016). There is the urgent need to popularize the systematic approach to completely accommodate the interests of all and sundry who indicate interest in the study of Fine/Applied Arts.

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