Preferential Screen Resolution Setting in Adobe Photoshop for Actual Motif Print Sizes in Textile Design

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ABSTRACT

The use of Adobe Photoshop, a graphic design software, as a tool in textile designing has come to stay. There are numerous advantages derived from this software in textile designing, even though it is a graphic design program. Despite the numerous design advantages, the software presents technical constraints to textile design students and beginners in its visual representation of motif and texture pattern sizes. This problem of screen resolution settings affected the actual view of motif print sizes and texture patterns when printed in hard copy in relation to the soft copy for screen development. Furthermore, it affects design details during colour separation, screen copying and developing, and printing. The study employed the practiced-led research method in its approach to explore the possibilities of finding preferential screen resolution settings suitable for textile designing in Adobe Photoshop. The study revealed adjustments or modifications of the view-preferential settings of the program to ascertain the required screen resolution settings for textile motif and texture pattern sizes. This revelation bridged the visual differences between the soft copy and hard copy sizes of motif and texture pattern during and after designing. The research recommends that textile design students and beginners, as a prerequisite, adjust the view-preferential settings of Adobe Photoshop to obtain accurate motif and texture pattern sizes during and after designing.

INTRODUCTION

Before the advent of graphics software, textile students were taught hands-on skills in motif tracing, motif layout, and colour application. This same method was inculcated into students to produce colour separation from hand-painted textile designs on large paper sizes. Even though this method of training was effective, it also presented challenges in accuracy, precision and colour exploitation during designing. Moreover, it was tedious and time consuming to organise these motif and texture pattern variations manually. The design of textiles deals with the planning of the cloth's structure (weave, knit, non-woven, lace etc.), the design of the pattern on the cloth (print, embroidery, etc.) and development of textile products for a wide variety of applications and fields, from fashion and interior design to art [1]. Graphics software has found its applications in various fields of art. In the field of design, several design software are being utilised by various art disciplines, for example CorelDraw, AutoCAD, Adobe Photoshop and Adobe Illustrator, amongst others. Today, textile design as an art field has embraced the use of graphics software in surface design processes.

This software is used most efficiently to enhance the design sketch of textile designers. Again, it is used to reduce the period of time in design processes. It gives more room for designers to exploit different colour schemes of a particular design. It is attested that the use of graphics software for textile designing has turned into a revolution, changing the face of the textile industry. CAD graphics software especially is believed to have taken away the time-consuming and cumbersome process of creating designs [2]. Przybelek further opines that computer software simplifies the process of designing textile elements like printed surface patterns and garments.

In art and iconography, a motif is an element of an image. A motif may be repeated in a pattern or design, often many times, or may just occur once in a work. One of the key factors considered in textile surface designing is the relationship between the sizes of motifs and textured patterns. It is expected that the size of texture patterns should not overshadow that of the motifs in the design. With this understanding, textile designers are much more particular about the proportions of motifs and texture patterns in a design, irrespective of using the hand or graphics software as a method of designing.

Adobe Photoshop is one of the few graphics software which has found its applications in textile design. The software provide tools necessary to assist textile designers and students to manipulate designs on different effects and colour schemes. Interestingly, it has become a prerequisite for textile students to employ the software in surface designing and, most importantly, for colour separation in screen development for hand printing. Critical observation and comparative studies by researchers reveal that there are significant differences between the sizes of motifs and texture patterns in soft copy in relation to the sizes of motifs and texture patterns in hard copy on paper after colour separation printing. This technical difficulty caused uncertainties as far as the use of the software in textile designing was concerned. Furthermore, it caused waste of paper and the destruction of developed screens as it created difficulties in printing.

Many attempts by textile students to resolve this technical problem has proven futile. Even though the effectual use of the program is achieved in textile designing, it presented differences of motif and texture patterns sizes in soft and hard copies. The predetermined sizes relations utilised in the soft copy mode to correspond to the hard copy for the desired motif and texture pattern effect was not ascertained. This challenge has become a daunting task for textile students using Adobe Photoshop to design and work on design colour separations.

It is based on this technical problem that this research seeks to find a possible means of resolving the visual differences between the soft copy and printed hard copy sizes of motifs and texture patterns to bridge the gap in motif and texture patterns sizes in textile designing with Adobe Photoshop. Furthermore, it will help students to appreciate designs with their respective sizes and the influence of colour applications in relation to size variations during designing.

Materials and Methods

Candy explains that practice-led research is concerned with the nature of practice and leads to new knowledge that has operational significance for that practice [3]. The main focus of the research is to advance knowledge about practice or to advance knowledge within the practice. The methodology employed in this research is a practice-led method. There are different hardware companies (for example, HP, Apple, Toshiba, Samsung, Packard Bell, Lenovo etc.) around the globe and in order to find a possible solution to the problem at hand, there was a need for a hardware device. With lots of hardware products, purposive sampling was done on an HP core i7 Elitebook laptop for practice. It is on this laptop that the Adobe Photoshop software was installed for the research practice. The software version used for the study is Adobe Photoshop CC 2017 edition.

Adobe Photoshop Screen Resolution Settings

In order to ascertain the preferred resolution settings, the default program settings needed to be altered. The adjustment was done to achieve the recommended sizes of motifs and texture patterns in the soft-copy and hardcopy printout. The following procedures or steps were taken to achieve the desired results with the software.

Step 1

Launch Adobe Photoshop software by double-clicking on the shortcut icon on the desktop or by clicking on the icon in the start menu.
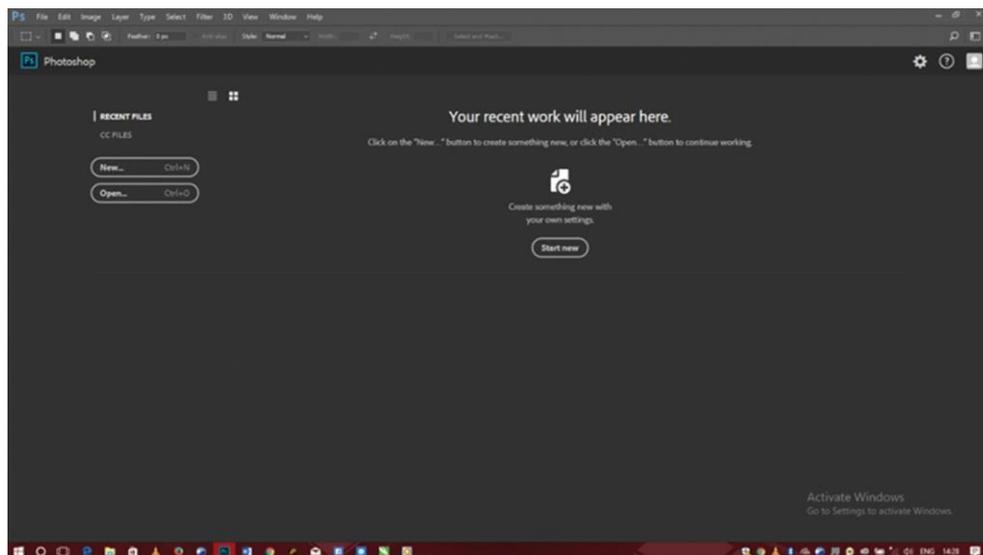
Figure 1. Adobe Photoshop CC Interface

Step 2

Click *Edit* on the menu bar to obtain a drop sub-menu curtain.
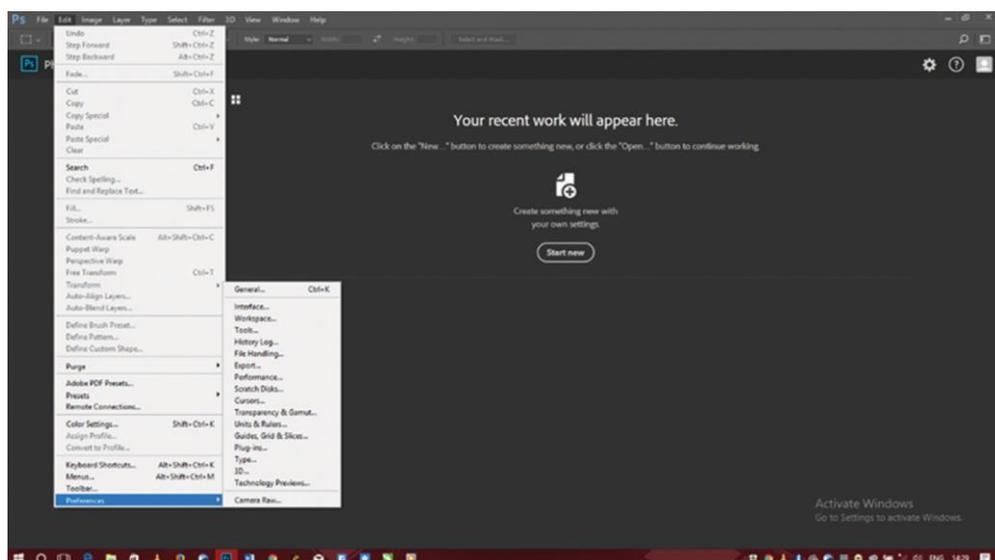
Figure 2. *Edit* Command on the Menu Bar

Step 3

Go to *Preferences* to obtain a flyout sub-menu. Click on *Units & Rulers* on the flyout menu to obtain the *Units & Rulers* dialogue box.
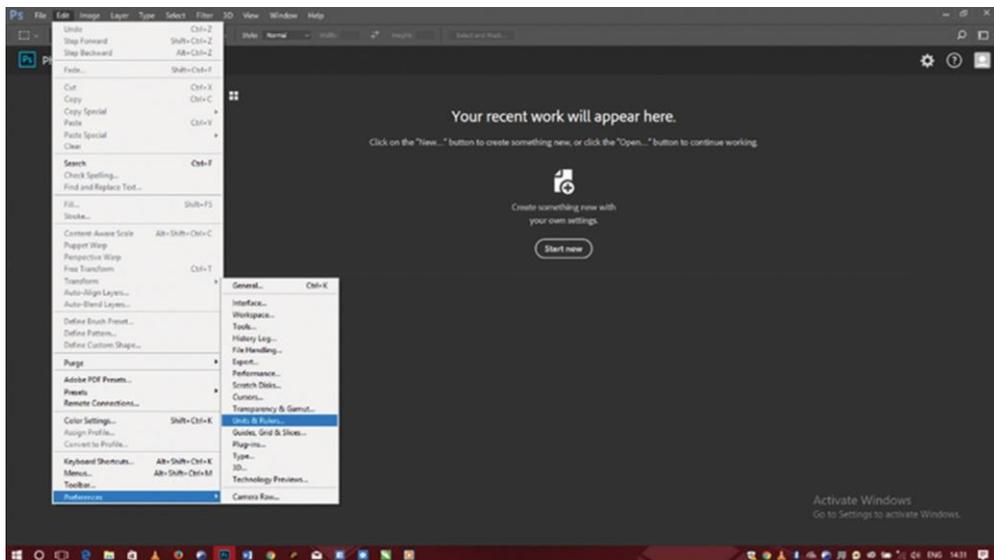

Figure 3. Identifying *Units & Rulers*

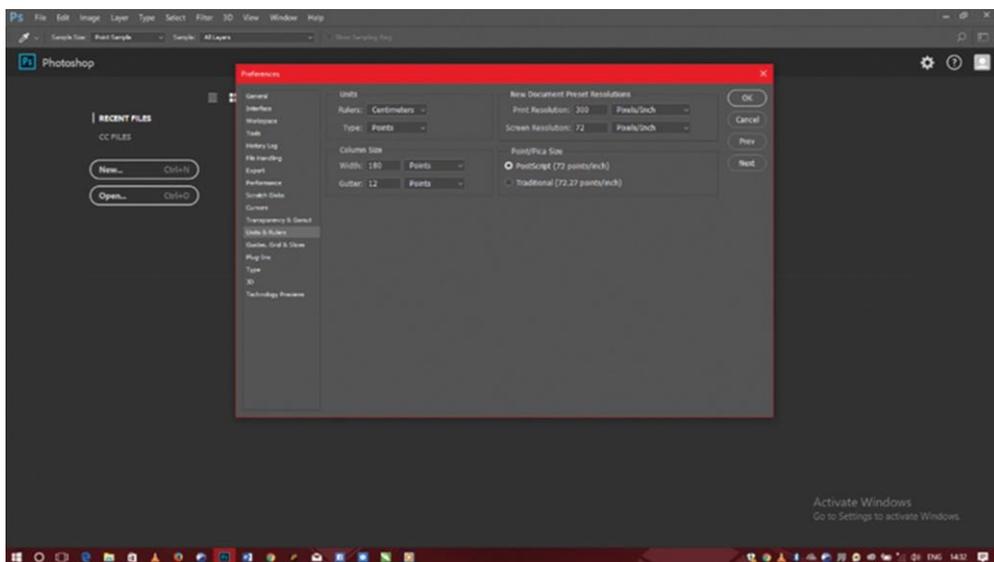Figure 4 shows *Units & Rulers* dialogue box under *Preferences* from *Edit* on the menu bar.

Figure 4. *Units & Rulers* dialogue box under *Preferences*

Step 4

Figure 4 gives the default settings of the program. There are two sections identified on the dialogue box, i.e. the *Units* section and the *New Document Preset Resolution* on the left and right of the dialogue, respectively. In order to achieve the preferential resolution settings, the *Ruler* under *Units* which is set on centimetres, has to be changed to inches to correspond to the resolution units in pixels per inch. The next step is to change or maintain the *Print Resolution* from 300 to 200 pixels per inch. This setting does not necessarily affect the sizes of the motifs and texture patterns but determines the sharpness of the images. In

simple terms, it is read as: the higher the print resolution, the sharper and heavier the image; or the lower the print resolution, the coarser and lighter the image. It is advised that this be adjusted depending on the memory and processing speed of the laptop. However, print resolution can be 150 to 250 pixels per inch for a faster working experience.

However, it must be noted that the default number for the screen resolution, which is 72 pixels per inch causes the visual illusion of motif and texture patterns sizes during designing. With the laptop used for the research, 120 pixels per inch was the feasible number chosen to rectify this problem. A similar defined texture was used to check the differences in the default screen resolution and the adjusted screen resolution in pixels per inch.

After the alteration, the actual sizes of the motif and texture patterns were verified by selecting *View* on the menu bar and clicking on *Print Size*. The differences in screen resolution of 72 and 120 pixels per inch in relation to print sizes are shown below in Figure 5 and 6, respectively.
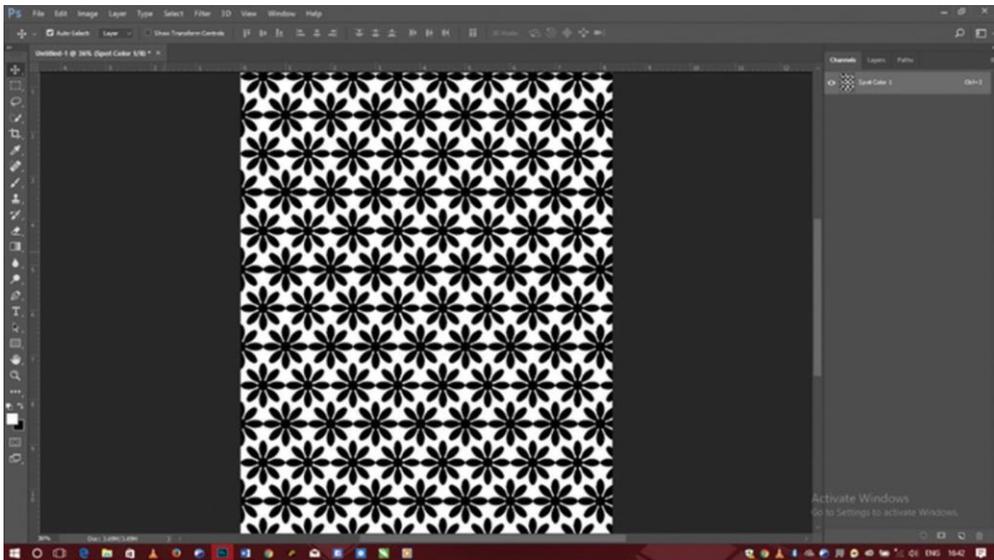

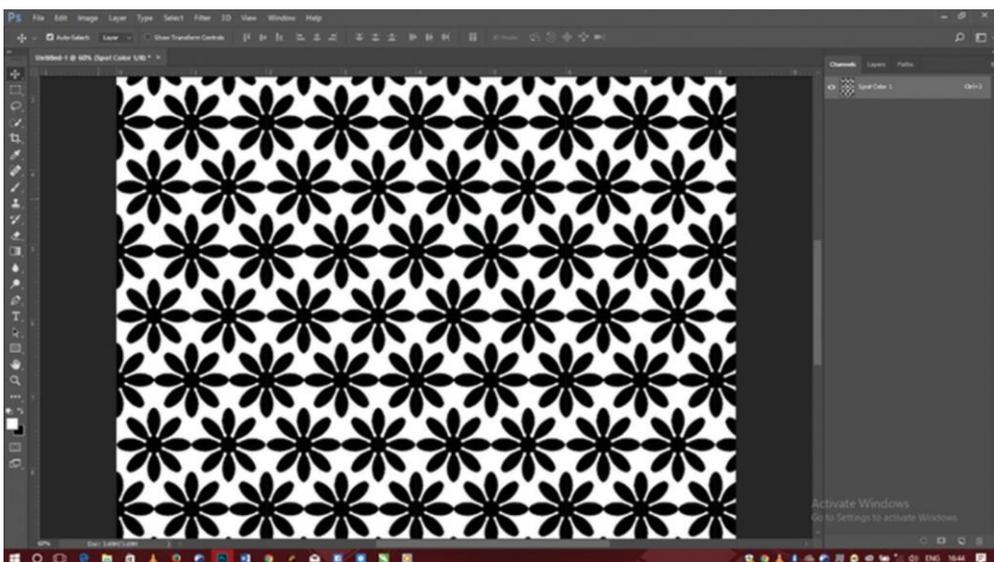Figure 5. Screen Resolution Print Size at 72 Pixels per Inch

Figure 6. Screen Resolution Print Size at 120 Pixels per Inch

Furthermore, to enhance the understanding of this knowledge, colour was needed to appreciate the varying size of motifs and texture patterns on a screen. It is significant to know that these images on the screen should be rendered in black and white for the final printout in colour separation. The differential resolution in colour effects is shown in Figure 7 and 8 in 72 and 120 pixels per inch respectively under print size view in the program.
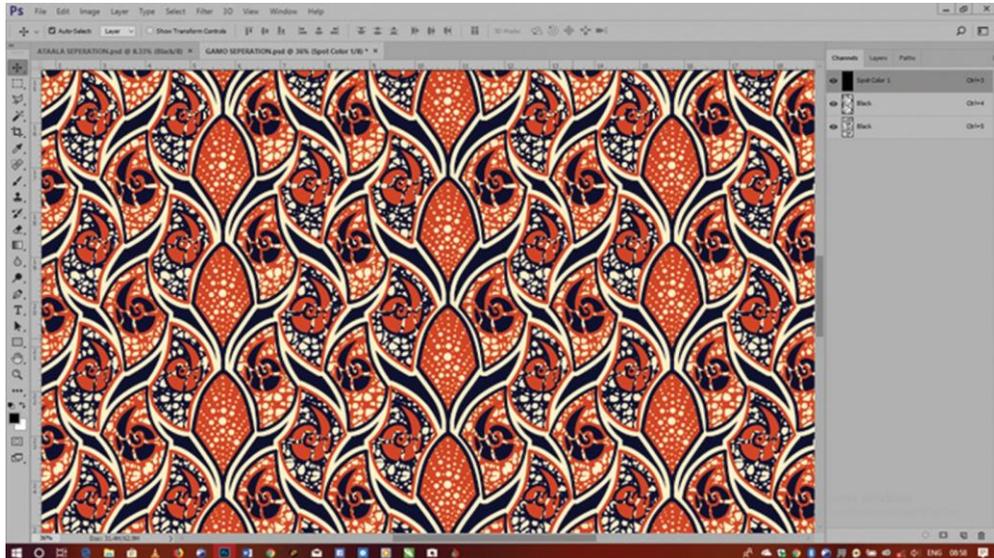

Figure 7. Textile Design in Colour (Screen Resolution Print Size at 72 Pixels per Inch)

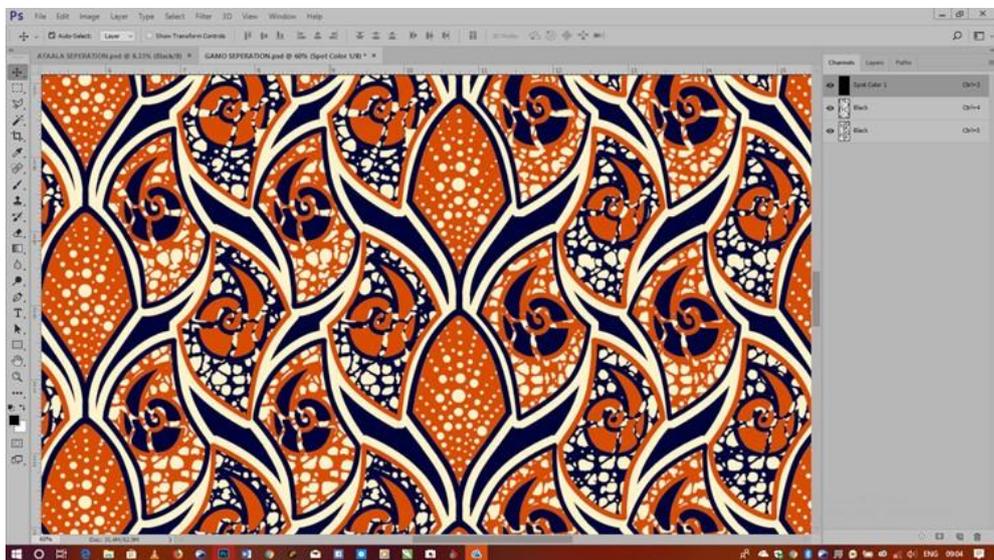Figure 8 below shows the same design in print size view at a screen resolution of 120 pixels per inch.

Figure 8. Textile Design in Colour (Screen Resolution Print Size at 120 Pixels per Inch)

In relation to Figure 7 and 8, these differences are further employed in the final colour separations of the work to show the challenges faced when used for screen development in relation to shapes and lines in the design.
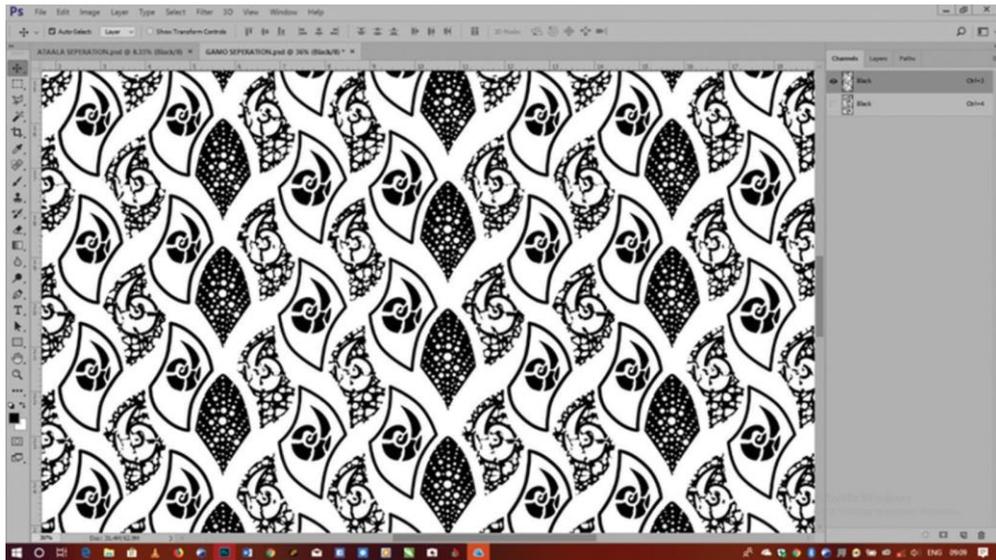
Figure 9. Colour 1 Separation (Screen Resolution Print Size at 72 Pixels per Inch)
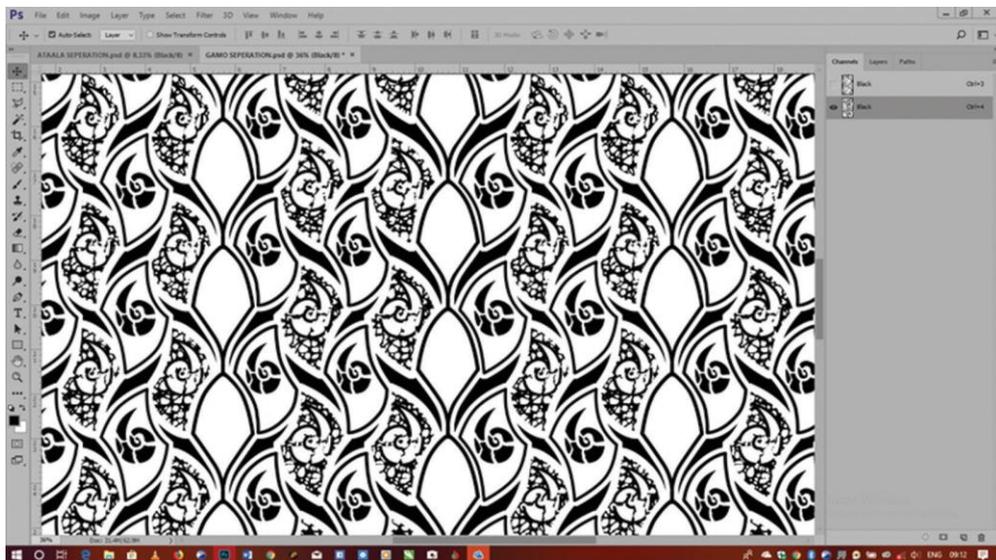

Figure 10. Colour 2 Separation (Screen Resolution Print Size at 72 Pixels per Inch)

The visual differences in the outcome of colour separation of the same design under 120 pixels per inch are shown below in Figure 11 and 12.
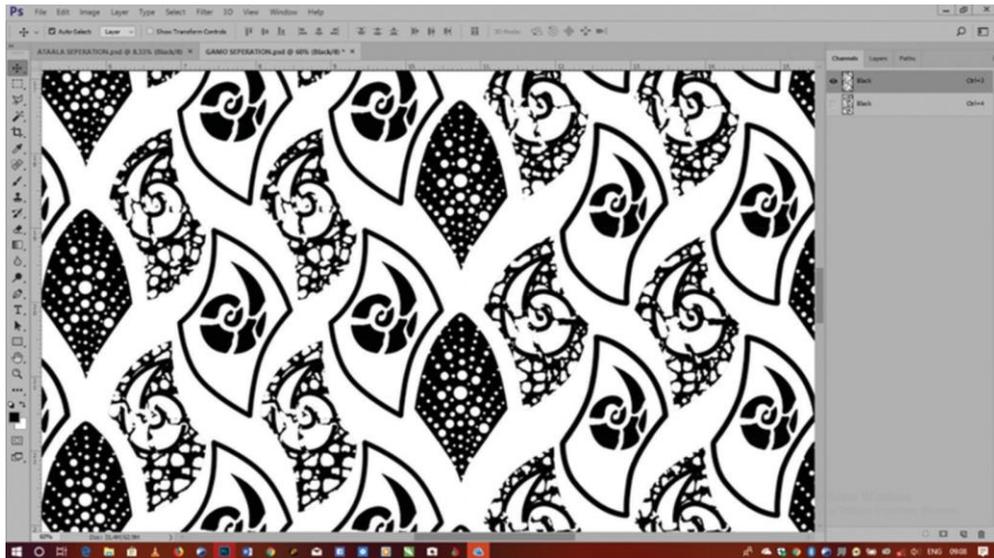
Figure 11. Colour 1 Separation (Screen Resolution Print Size at 120 Pixels per inch)
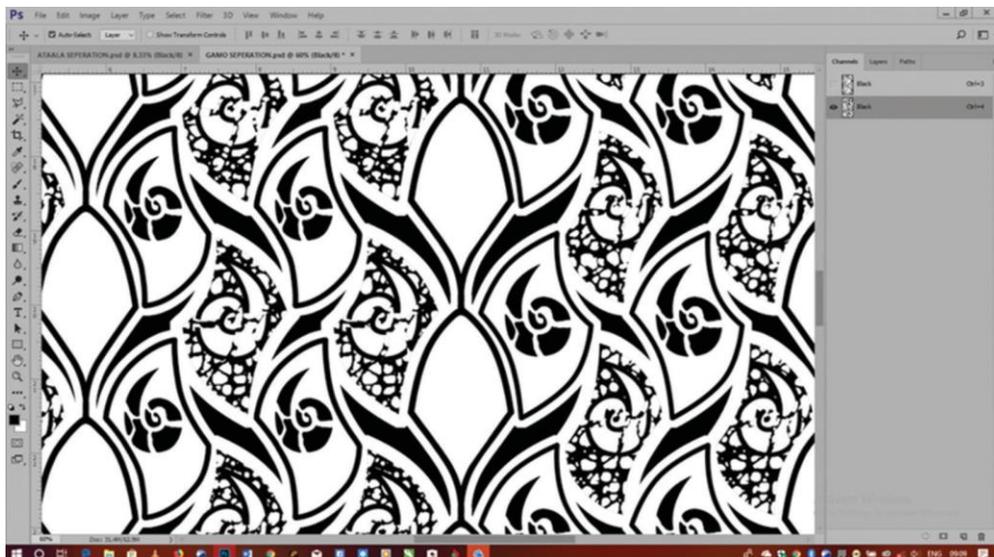

Figure 12. Colour 2 Separation (Screen Resolution Print Size at 120 Pixels per Inch)

RESULTS AND DISCUSSION

Even though Adobe Photoshop comes in different versions, this research reveals that these variations do not affect the default settings of the program when installed. However, it is the resolution of the hardware that needs to be considered when the program is installed.

It can clearly be identified in Figure 5 and 6 respectively that the screen resolution of the texture pattern sizes varies. The screen resolution at 72 pixels per inch gives a smaller texture and pattern size, which in actual print size will be bigger as seen in Figure 6 with a screen resolution of 120 pixels per inch. The same effect is shown on Figure 9 and 10, 11 and 12, respectively.

The adjustment of the screen resolution in Adobe Photoshop will give the user a clear view of motif and texture pattern sizes to achieve the desired outcomes of lines, spaces and colour that are employed in designing. Furthermore, it will provide the assurance in the outcome of the design when colour separations for the final printout are done.

Practical experience shows that the screen resolution of the program can be exploited on any hardware between 100 – 300 pixels per inch depending on the type of hardware or brand. To verify the correct print size on the screen, which will reflect the size of the hardcopy print, a measuring tape can be used to check on the screen.

CONCLUSION

It can be concluded from this research that, if this practice is followed in schools and by designers, the visual differences between the sizes of the motifs and texture in the soft copy and the printed hard copy will be bridged by the use of Adobe Photoshop in the design of textile fabrics. Furthermore, it is recommended that schools and colleges include this in their curriculum as a constant practice, and, if in doubt, they refer to other online resources available for support in this field, so as to avoid wasting time and design input on the part of textile designers (either students or practitioners).

REFERENCES

[1] Cnaani G., Himmelschein H. Department of Textile Design [internet]. [cited 2018 May]. Available from: http://www.shenkar.ac.il/en/departments/design-textile-department

[2] Przybylek S. How is CAD & CAM Used in Textiles? [cited 2019 July]. Available from: https://study.com/academy/lesson/how-is-cad-cam-used-in-tex

[3] Candy L. Practice based research: A guide. CCS report, 1(2), 2006.