全像立體影像應用於基礎剪髮設計教學工具書

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摘　要

本論文旨在探討全像術運用於平面教材空間之辨識，並應用於基礎剪髮設計教學工具書。隨著全球髮型時尚的資訊與數位風潮引領之下，人類對於崇尚自我造型與流行美學的學習需求也逐漸擴增。因此，良好的立體空間學習，有助於髮型設計未來在造型能力與邏輯能力的培養。市面上許多的髮型學習教材均多以平面影像的方式呈現，讓學生在學習髮型設計之點、線、面體所構成的立體空間學習的過程需要較多的時間訓練與理解，並且在造型完成後容易造成誤判以及差異。因此本研究針對技職學生的剪髮學習過程，透過「全像立體影像的應用」可以多次元的呈現出髮型空間訊息的基本原理，讓學生能更容易的理解所要學習到相關造型問題。期待未來透過立體影像輔助教材的使用，學生能清楚的學習調整髮量、位置、比例、造型空間關係的判定，以致於在美髮造形的設計，更能夠增強學習的興趣與效益。本研究首次嘗試將全像立體影像運用於美髮造型教材領域並做基礎剪髮造型構成之空間深度判別的研究。以現今技職教育與丙級證照檢定之基礎剪髮設計圖的三種基準髮型（水平剪髮、逆斜線剪髮、正斜線剪髮構成），用全像立體影像與平面紙本結合作為主要表現媒材，並在二維平面中表現三維立體概念的剪髮構成圖做不同深度的改變，得到空間深度的執行規則。探討是否能增加學生學習剪髮的興趣與提升髮型圖像在視覺空間上的辨識能力。其研究結果提供未來製作出全像立體基礎剪髮工具書之參考依據，除此之外還可運用到髮型設計或其它視覺設計表現的新媒材，使表現更加多元且富有趣。

以下為本研究之結果：

（1）本實驗結果發現藉由全像立體影像做輔助的媒材來呈現基礎剪髮完成

之造型時，使用者在剪髮造型的辨識上具有高度的準確率。所以全像立體影像在輔助基礎剪髮教材造型的判定上確實可以達到正確的辨識與好的學習績效。

（2）本實驗的結果得知現今基礎剪髮教具所呈現的平面造型影像，普遍對於使用者在完成後髮型資訊的判讀上是有困難的。所以當基礎剪髮的造型由平面影像來傳達的時候，會失去造型層次與角度的深度資訊。

（3）基礎剪髮造型圖運用了全像立體影像媒材成像時，有助於基礎剪髮造型的判別，也就是全像立體影像有助於剪髮造型層次的判別，以後可運用在視覺設計領域裡表現平面立體概念時或未來開發成全像基礎剪髮設計工具書表現的參考依據。

（4）本研究創作的結果得知全像立體影像與基礎剪髮紙本教具的結合，可以帶來髮型教育以及造型時尚設計一種新的表現形式。此外，當觀者觀看動態式全像立體影像時，可上下左右移動視點其色彩會隨著視角的不同而改變顏色，並且有動態之效果。

（5）本研究結果證明，以基礎剪髮造型結合全像立體影像的造型層次、質感之表現優於平面影像的造型呈現。

關鍵字：全像術、基礎剪髮、立體影像、空間辨識

A Study on the Holography Applied on the Haircut Design and Teaching Material

Abstract

This research aims to explore the holography applied on the recognition of graphic space, and take the haircut teaching and design material as an example. With the guidance of information and trend of global hair fashion, people have more and more necessity to pursue ego modeling and learn fashion aesthetic. Therefore, great learning on stereo space helps the development of haircut design in representing future formation and logic abilities. The haircut teaching materials we have right now in the market are mostly shown with graphic images. It spends more time for students to train and understand the stereo space in the process when they learn the composition of point, line and plane. This research focuses on the haircut learning for duty system students. Through the application of holographic images which show the basic principle of hair space information multiply, and make students understand related formation problem more easily. The research expects students to learn the recognition of hair amount, position, proportion, and formation space through the use of stereo images in the future. People could get more learning interests and effects in the field of hair design. This research is the first time to apply holography on the haircut teaching material, and is also a study on the space recognition of haircut modeling composition. The resource images are from the pictures of three basic hair styles in today's duty system school and third class certification (horizontal haircut, converse oblique haircut, upright oblique haircut). The main media combines holographic image and flat book, and represents 3D stereo concept of haircut

composition on 2D flat.　　The goal is to explore if this would raise students' interest in learning haircut, and upgrade the recognition of haircut images in visual space. The result provides an example for future products of stereo haircut material.　　In addition, it could be applied on hair design or other visual design field.

There are five conclusions in this research:

(1)The result shows when taking holography as media to represent the final haircut model, there is a high degree of accuracy for users to recognize the model.　　It proves that holography could help the recognition of haircut model, and it achieves a correct recognition and great learning effect.

(2)The result finds the flat images used in today's haircut material would be difficult for users to read the haircut information.　　It means when using flat images to communicate, it would lose the depth information of levels and angles.

(3)It helps the recognition of haircut model when applying holography on the haircut images.　　In another way, it helps the recognition of levels in the haircut model, and this could be used in the visual design field to represent a flat but stereo concept or taken as an example in future development of holographic haircut material.

(4)The creation of this research says that combine holography with haircut material could bring a new representation for haircut design and fashion design.　　Moreover, when viewers see dynamic holograms, they could move their viewpoint to observe different colors in different angles, and the result is dynamic.

(5)This research proves that combine holography with haircut material has better

effect than flat images in representing formation, level, and texture.